DOCUMENT RESUME

ED 217 706 FL 012 969

TITLE	Selector's Guide for Bilingual Education Materials. Volume 2, Spanish "Branch" Programs. EPIE Report: Number 74.
INSTITUTION	Educational Products Information Exchange Inst., Stony Brook, N.Y.
SPONS AGENCY	National Inst. of Education (DHEW), Washington, D.C.
PUB DATE	76
CONTRACT	NIE-400-75-0079
NOTE	342p.; For related document see FL 012 968.
EDRS PRICE	MF01/PC14 Plus Postage.
DESCRIPTORS	Abstracts; Annotated Bibliographies; *Bilingual Education; Elementary Secondary Education; *Instructional Materials; *Media Selection; *Spanish

ABSTRACT

Fifty Spanish-English bilingual basic instructional programs, 27 supplementary instructional items, and 11 professional resources are synthesized as an aid to material selection. Programs and materials described cover subjects normally taught at the elementary and secondary levels (language, science, mathematics, and social studies). Each synthesis of instructional material identifies the material with complete cataloguing information and the specification of components, subject area, curriculum role, grade levels, population characteristics, research and development evidence, linguistic content, and language level. Instructional design constructs are then discussed, with a paragraph each devoted to the developer's rationale, learner goals, learner objectives, scope and sequence of content, methodology, means of evaluation, and additional considerations such as physical description and source of the material. Professional materials are described in somewhat shorter resumes. An extensive rationale and user's guide precedes the syntheses. (JB)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

ED217706

U.S. DEPARTMENT OF EDUCATION
NATIONAL INSTITUTE OF EDUCATION
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

☒ This document has been reproduced as received from the person or organization originating it.

☐ Minor changes have been made to improve reproduction quality.

• Points of view or opinions stated in this document do not necessarily represent official NIE position or policy.

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY

EPIE Institute

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

EPIE REPORT: Number 74

SELECTOR'S GUIDE FOR BILINGUAL EDUCATION MATERIALS

Volume 2, Spanish "Branch" Programs

FL012969

FL012969

EPIE Institute

Copyright 1976 by EPIE Institute. All rights reserved. No part of this publication may be reproduced, stored in any retrieval system, or transmitted in any form or by any means – electronic, mechanical, photocopying, recording, or otherwise – without explicit prior written permission from EPIE Institute. Printed in the United States of America.

The work upon which this publication is based was performed pursuant to Contract No. NIE 400-75-0079, with the National Institute of Education, Department of Health, Education, and Welfare. Contractors undertaking such projects under Government sponsorship are encouraged to express freely their professional judgment in the conduct of the project; points of view or opinions stated do not, therefore, necessarily represent official National Institute of Education position or policy.

Copyright is claimed until 1981. Thereafter all portions of this work covered by this copyright will be in the public domain. School districts are authorized to make copies for their own use provided the copies display the EPIE copyright notice.

EPIE Report is published bimonthly as a membership service of EPIE [Educational Products Information Exchange] Institute, 463 West Street, New York, New York 10014. Permission to photocopy or reprint any portion of this *EPIE Report* will be granted only in response to a specific written request. Reprinting, or excerpting from, any *EPIE Report* for commercial purposes is strictly prohibited.

EPIE Institute gathers and disseminates descriptive and analytical information – along with empirical information on performance and effects on learners – about instructional materials, equipment, and systems. Chartered provisionally in 1967 and permanently in 1975 by the Regents of the University of the State of New York, EPIE is a not-for-profit, consumer-supported agency. It has no commercial sponsorships; its income is derived from memberships, from subscriptions to its semimonthly newsletter (*EPIEgram*), from fees for services rendered to educational institutions, and from occasional nonrestrictive grants from private foundations and public agencies. All EPIE's services are designed to facilitate the making of informed, rational purchasing decisions about educational products.

Second class postage is paid at New York, New York, and additional mailing entries.

Trustees: Anne C. Abramovitz, William K. Coblentz, Forrest E. Conner, Ira Furman, P. Kenneth Komoski (President), Ruth Mancuso, Carl L. Marburger, Edward Orloff, Charles Stockmar, William W. Turnbull.

Executive Director: P. Kenneth Komoski.

National Advisory Board: Some 30 national educational and technical organizations meet, cooperate with, and advise EPIE from time to time.

Consultants: EPIE's staff is assisted on specific studies by the work of more than 100 cooperating educational and technical consultants from a broad range of organizations throughout the country.

For membership or any other information about EPIE, write to EPIE Institute, 463 West Street, New York, New York 10014, or telephone 212 [redacted]. 581-1768.

TABLE OF CONTENTS

On the Selection of Spanish Instructional Materials for Bilingual Classrooms . . vi
Matching Materials and Learners . . . viii
Where Do You Stand on Bilingual Education . . . ix
From Preferences to Programs . . . xi
Putting It All Together . . . xv
Final Notes . . . xxii

Synthesized Analyses of Basic Instructional Programs

Área de Matemáticas Program II . . . 2
Bilingual Early Childhood Program . . . 4
Bilingual Kindergarten . . . 8
Camino hacia la Buena Salud, El . . . 12
CDA Math . . . 14
Ciencia y Vida . . . 16
Ciencias: Áreas Natural y Social . . . 18
Ciencias: Estudio de la Naturaleza . . . 20
Ciencias de la Naturaleza . . . 22
Ciencias Sociales . . . 24
Cincel's Integrated Curriculum . . . 26
Colección Núñez Molina . . . 28
Conceptos Básicos . . . 30
Developing Mathematical Processes . . . 32
Diagonal . . . 34
Educación General Básica (editorial Bruño) . . . 36
Ensenañza Programada E.G.B. (mathematics) . . . 38
Gaviota . . . 40
Mañana . . . 42
Matemática . . . 44
Matemática de Silver Burdett . . . 46
Matemática Moderna . . . 48
Matemática para la Educación Primaria . . . 50
Matemáticas . . . 52
Matemáticas . . . 54
Matemáticas Modernas para Escuelas Primarias . . . 56
Matemáticas Program III . . . 58
Modern Mathematics Program I . . . 60
Mundo de la Ciencia (primera etapa), El . . . 62
Natural and Social Sciences Program II (natural science component) . . . 64
Natural and Social Sciences Program II (social science component) . . . 66
Natural and Social Sciences Program IV (Dominican Edition) . . . 68
Nosotros y los Números . . . 70
Nuestro Mundo . . . 72
Nuestro Mundo: Estudio de la Naturaleza . . . 74
Nuestro Planeta . . . 76
Nueva Matemática . . . 78
Números y Figuras . . . 80
Plan de Estudios para Niños de Temprana Edad: Un Programa de Piaget . . . 82
Redondel . . . 84
SCDC Spanish Curricula Units: Fine Arts Strand . . . 86
SCDC Spanish Curricula Units: Science/Math Strand . . . 88
SCDC Spanish Curricula Units: Social Science Strand . . . 90
Serie Cosmos . . . 92
Serie de Ciencia Heath . . . 94
S.M. Cálculo . . . 96
Social Studies/Cultural History Series (no series title given) . . . 98
Tren de Colores: Programa 2, El . . . 100
Vida del Hombre, La . . . 102

Synthesized Analyses of Supplementary Instructional Materials

Ahora Conoces las Plantas 106
American Bicentennial–A Visual Perspective, The 107
Brentano Bi-lingual Media Series, The; Module IV, Transportation and Community Workers, (Community Workers Segment) 108
Brentano Bi-lingual Media Series, The; Module IV, Transportation and Community Workers, (Transportation Segment) 110
Brentano Bi-lingual Media Series, The; Module V, Summerfun 112
Caribbean Stories, The 114
Carteles Puertorriqueños 116
Chaparrón de Experimentos de Laboratorio de Matemáticas, Un 116
EBE's "Non-Captioned Filmstrip" Programs 117
EDL CompuCards Arithmetic Skills Program 118
Estudio Cultural de Puerto Rico 119
Five Hispanic Towns 119
Gente y las Varias Ocupaciones, La 120
Learning Achievement Packages: Social Studies 121
Learning Achievement Packages in Sciences–Biology 122
Learning Achievement Packages in Social Studies 123
Learning Achievement Packages in Social Studies–History 124
Máquinas Simples 125
Modern Puerto Rico 126
Mundo del Trabajo, El 128
People of the City 129
Primeras Aventuras en Ciencias 130
Programa Paralelo de Creatividad 131
Puerto Rico and the Puerto Ricans 132
Sistema de Medidas/Measurement Skills 134
Social Studies Bilingual Multicultural Guide 135
Trabajo Manual 136

Synthesized Analyses of Professional Materials

¡Aprendemos con Gusto! 139
Each One Learning: A Small Group Process Manual for Teachers 139
Forming an Estudiantina and Symbols of Musical Notation 140
Information and Materials To Teach the Cultural Heritage of the Mexican-American Child 140
Language Development Resources for Bilingual Bicultural Education . . . 141
Presentaciones Escolares 141
Resource Material for Bilingual Education 142
Struggle for Independence: Mexico's Rebellion against Spain 142
They Help Each Other Learn: A Group Participation and Leadership Training Manual 143
Things To Do: Activities for a Bilingual Classroom 143
We Learn Together: A Small Group Process Manual for Secondary Teachers 144

Index of Authors 145
Index of Distributors 146
Index of Publishers 147
Contents of EPIE Report: Number 73 149
List of EPIE-trained Instructional Materials Analysts for 1975-76 School Year 151

On the Selection of Spanish Instructional Materials for Bilingual Classrooms

ON THE SELECTION OF SPANISH INSTRUCTIONAL MATERIALS FOR BILINGUAL CLASSROOMS

The contents of both Volume 1 and Volume 2 of *Selector's Guide for Bilingual Education Materials – EPIE Report: Number 73* and *74* – represent the work of 36 people looking intensively at more than 1,200 instructional materials.

What is the "work," who are the "people," what are the "materials"?

The "work" is analyzing instructional materials in a structured, systematic manner using a comprehensive materials-analysis instrument called *EPIEform A*. Based on an earlier instrument created by Maurice Eash – Director of the Office of Evaluation Research, University of Illinois at Chicago Circle – *EPIEform A* is continually revised and adapted to fit the requirements of EPIE's nationwide program of cooperative instructional-materials analysis and evaluation.

The "people" are 36 cooperating educators, all fluent in English and Spanish and all considered to be experts in bilingual education, some of whom are classroom teachers, some teacher trainers, some university-level professors, some media specialists, some consultants. Before spending about one week analyzing products – and several weeks, later, at home – all 36 people underwent an intensive two-and-a-half days of training in materials analysis and the use of *EPIEform A* in a secluded educational conference center in New Mexico.

The "materials" are just about every Spanish instructional material – produced by both commercial companies and noncommercial agencies in both the United States and other countries – that EPIE could get its hands on. (The actual number of materials is even greater than 1,200 because an uncounted amount of all materials collected did not meet EPIE's "eligibility rules" for these two volumes. Moreover, some materials not available for analysis – and this fact is indicated in the analyses – were not counted in the 1,200 tally.) A number of basic programs have as many as 30 or more individual components and all of them have been subjected to analysis. Each individual material was subjected to analysis by two analysts; an editor then synthesized the two analyses, resolving discrepant findings by discussion or, if necessary, by referral to a third analyst. The resultant synthesized analyses appear in these two volumes.

How did a project of such magnitude get started and financed?

This project started with the recognition by both EPIE Institute and the National Institute of Education that interest in bilingual education is growing rapidly in the United States. Commensurate with this growing interest, an increased practitioner need has emerged for objective information about curriculum materials usable in bilingual classrooms.

Heretofore, no one source (or even handful of sources) existed for selectors of bilingual materials to consult in order to obtain objective (or even promotional) information about such materials. To respond to this need, NIE awarded EPIE a contract to produce what was expected to be a single volume such as this and another volume serving the same purpose for Chinese and Japanese materials. As it has turned out, the enormity of the analyses of Spanish materials made one volume unwieldy, and thus there are two volumes; and the paucity of, and unsatisfactory quality of, materials in Chinese and Japanese suggested that two languages be added to the Asian-languages volume, and thus there is *Selector's Guide for Bilingual Education Materials, Volume 3, The Status of Programs in Chinese, Japanese, Korean, and Vietnamese.*

Soon after NIE awarded the contract to EPIE in the summer of 1975, EPIE began establishing contact with hundreds of commercial and noncommercial, domestic and foreign, producers and distributors of bilingual materials. And, with the help and counsel of NIE, the U.S. Office of Education, and regular advisors of and consultants to EPIE, a ten-member National Panel on Bilingual Materials was constituted.

The panel was convened–along with Susan Stairs, The Project Officer, National Institute of Education, Multicultural/Bilingual Division and EPIE staff members and consultants–for a two-and-a-half-day conference in Glen Cove, Long Island in August 1975. At the conference, criteria for inclusion or exclusion of materials to be analyzed were determined. In addition, certain critical questions were discussed, and the search was begun to identify what turned out to be 36 people

FIGURE I

Curriculum Development and Materials Selection

Column A
Column B
ANALYSIS, DESCRIPTION, SELECTION, AND EVALUATION OF INSTRUCTIONAL MATERIALS
PLANNING, DEVELOPMENT, IMPLEMENTATION, AND EVALUATION OF INSTRUCTIONAL PROGRAMS
A-9
total universe of 500,000-plus instructional materials
total curriculum, pre-k through adult, and 50,000,000-plus learners
B-9
A-8
all the materials which producers/ distributors claim are bilingual education instructional materials
nationwide promotion and discussion of the idea of bilingual education in the schools
B-8
A-7
actual materials relevant for use in bilingual programs
existing bilingual education programs in United States schools
B-7
A-6
screening to narrow to categories (e.g., all Spanish language materials k-12)
local clarification of the meaning of bilingual education (e.g., whether transitional or maintenance)
B-6
A-5
simple (i.e., annotated) listing of materials in the category
syllabi and course outlines for local bilingual education programs
B-5
A-4
four-construct analyses
plans for classroom instruction
B-4
A-3
probing design analyses, plus user feedback
specifications of instruction, plus evaluation data
B-3
A-2
teacher review
teacher implementation
B-2
A-1
LEARNERS
LEARNERS
B-1

who would constitute a National Bilingual Materials Analysis Task Force, later (in September) to convene in Abiquiu, New Mexico.

MATCHING MATERIALS AND LEARNERS

Finding instructional materials appropriate to learners (and, by implication, to teachers and to instructional programs) is a fundamental task of bilingual educators. Information on two factors is obviously involved in such a materials-learners match: *materials and learners.* The main part of this introductory section provides information organized to facilitate the educator's search for suitable materials. It is up to the educator to provide information on learners, information which defines the classroom setting and thereby determines the kind of materials to search for.

Two distinct processes are also involved in making the materials-learners match: one analytic and descriptive, the other evaluative. The descriptions of characteristics of learners and learning settings and the characteristics of materials can both be carried out objectively and with a minimum of valuing. Decisions concerning what kind of bilingual program is preferable and, therefore, the kinds of materials which best match a particular program are evaluative because they involve weighting values and expressing preferences.

Ultimately, of course, the individual classroom teacher is interested in only those materials which are suitable for that particular classroom. A narrowing-down process, from all materials available to those most suitable for that classroom, is thus necessary. Figure 1, although it may appear formidable, can actually be a simplifying guide for the narrowing-down process. (Note that, if the process is carried out as depicted in Figure 1, the teacher's job is reduced to looking first hand at relatively few alternative materials. Note also that the nearer the decision-making is to the actual learners with whom the materials will be used the greater the amount of detailed information that is needed about those materials.)

Column A outlines the steps in materials analysis and selection; Column B contains a parallel outline of comparable steps in the development of classroom instruction. The Figure 1 schema and the following explanation of the nine steps in the "funneling" process can be used as a map for locating, first, where *your* school system stands in classroom instruction development for bilingual education and, second, for determining what level (and amount) of information on instructional materials is appropriate to *you.*

Levels of Materials Descriptions

In Column A, on the left side of the schema, nine steps are listed. These steps are elaborated on below:

A-9 Total range of more than 500,000 instructional materials now on the market in the United States for all school subject areas.

A-8 Total number of instructional materials which publishers and distributors promote as bilingual education materials.

A-7 Total number of materials judged to be actually appropriate for use in bilingual programs on the basis of agreed-upon criteria. (These criteria can be set nationally, by state education agencies, by local school districts, or by some combination.)

A-6 Subset of available instructional materials for bilingual education programs which have been selected for description, analysis, and evaluation at a particular time.

A-5 Simple listings of materials in A-6: author, title, publisher/distributor, publication date, price, and, sometimes, a brief annotation.

A-4 Descriptive analyses of materials in A-5 using Instructional Design Outline (intents, contents, methodology, and means of evaluation) and looking into other matters (R&D evidence, target population, curriculum role, and various other considerations) – the level of analysis in these two volumes.

A-3 Penetrating Instructional Design Analyses using a full-scale analytical instrument such as *EPIEform A*, plus systematically gathered feedback obtained from users on the effects of materials on learners and on how materials function in various learning settings.

A-2 Teacher "hands-on" analysis and review of those materials that, on the basis of the information in A-3, seem to be closest to their specific requirements (i.e., the needs of their students and their own approach to bilingual education).

A-1 The most important test of a material's quality and "fit": how it works with individual learners. (Even if learners do not participate, except perhaps indirectly, in review and selection processes described above, it is often useful to give them access to a range of materials to draw upon for a given purpose rather than to limit their choice to one item.)

Levels of Program Development

In Column B, on the right side of the schema, nine parallel steps in the development of classroom instruction are listed:

B-9 The total school curriculum, prekindergarten through adult education, consisting of a wide range of subject areas and involving at least 50,000,000 learners across the United States.

B-8 In recent years, the idea of bilingual education promoted nationally through addresses, journal articles, and curriculum and materials development projects.

B-7 A number of school-based bilingual education programs emerging out of all the activity referred to in B-8. (These programs are at various stages of development and implementation, and they vary widely in the particular conception of bilingual education that is represented.)

B-6 Clarification before initiating classroom instruction needed on what bilingual education exactly means: that is, which elements of bilingual education will be included. (The product of this deliberation may take the form of a statement of philosophy or rationale.)

B-5 For many school systems, the next step in developing classroom instruction: the writing of course outlines, curriculum guides, or syllabi that indicate which bilingual education elements will be presented at various grade levels in relation to a number of subject areas.

B-4 Fuller, more detailed descriptions of classroom instruction, reflecting decisions that have been made within the four areas of instructional design: intents (or goals and objectives), contents (or scope and sequencing), teaching/learning methods, and approaches to the evaluation of student progress. (At this point teachers, together with others who are involved, have determined rather specifically what will take place in the classroom over the period of a semester or a year or more.)

B-3 As classroom instruction gets under way, each aspect of instructional design fully elaborated as it is actually carried out in day-to-day teaching and learning activities. (After a semester's or a year's time, information can be collected on how well implemented the program is and on what progress the learners are making.)

B-2 Implementation and maintenance of a program depending, of course, on the day-to-day work of teachers and other adults in classrooms and in other instructional settings.

B-1 As observed in A-1, the ultimate test of a program: how it functions with learners. (In a field such as bilingual education, it seems particularly important that learners themselves initiate and carry through many of the program activities.)

There are five main kinds of instructional materials that are currently available for use in Spanish-English bilingual programs. Each should be scrutinized carefully to determine its appropriateness for use in any specific classroom.

(a) English-language materials developed in the United States, including ESL [English as a Second Language] materials and those depicting aspects of other cultures or containing the content of various other school subjects. (Such materials have not been included in either *EPIE Report: Number 73* or *74*; the next four categories are included.)

(b) Materials in Spanish developed abroad without any adaptation for use in the United States, i.e., with Spanish-speaking Americans.

(c) Materials translated from English into Spanish without adaptation to the intended target populations in the United States.

(d) Materials translated and rewritten in Spanish so as to be more suitable for Spanish-speaking American children (e.g., materials incorporating ethnic-U.S. data, viewpoints, values, etc., or containing glossaries, background materials, interpretations, and the like that have been added to the original text).

(e) Materials written especially for Spanish-speaking American learners (even those making discriminations for learners residing in various regions of the country), often with attention paid to comparisons of cultures.

WHERE DO YOU STAND ON BILINGUAL EDUCATION?

Most of the current bilingual programs in the United States share the intent of providing effective educational services for children whose first language is not English. However, the ways in which this intent is carried out in practice varies a great deal from one classroom program to another. Basically, there are three main types of programs which have received attention over the past two decades. Two of the three include programs of the sort that received support from the National Defense Education Act of 1958, as amended. These involve: (1) the teaching of English as a second language [ESL] and (2) "foreign" language teaching. Both types are "bilingual" only to the extent that two languages are involved: the one the child comes to school with and the English (or other language) that he or she is taught. In one case, English is taught in order that children with a different first language might better receive school instruction in English; in the other case, the second language usually is not employed as a medium of instruction for any other subjects in the curriculum except the non-English language that is involved.

A third type of bilingual program receives support from the more recent Bilingual Education Act [Title VII of the Elementary and Secondary Education Amendment of 1967, amended in 1974]. In these programs, the teaching of some school subjects is carried out in the non-English-speaking child's first language, at least until the learner achieves sufficient mastery of English; in some

cases, instruction is aimed at improving and maintaining proficiency in the first language, as far as through high school. In addition to first language instruction, and the use of that language for school instruction (in addition to English), many programs of this type also involve teaching and learning about the culture of which the child's first language is an integral part.

Strictly speaking, even this third type of program may be "bilingual" only for the children whose first language is not English, since native speakers of English may not be involved simultaneously in learning the languages of their non-English speaking peers. Presumably, a *fully* bilingual (and bicultural) program would involve students of two language (and cultural) groups learning each other's language (and culture), as well as their own, and receiving instruction in a range of school subjects in both languages for a full span of years, kindergarten through grade twelve.

Key Distinguishing Elements of Bilingual Education

The following three elements were synthesized from a number of sources as a basis for describing the "bilingual-ness" of instructional programs and materials. Although no one of the three, by itself, is sufficient to make a product fully bilingual, neither is it necessary for a program or material to contain all three elements to be valid. When analyzing an instructional material that is being considered, a materials selector should keep in mind that it is the potential role of the material in a bilingual program – the use to which it will be put – that ultimately determines how "bilingual" it is. And how "bilingual" a program is thought to be depends on one's definition or conception of bilingual education. The three main elements of bilingual education, then, can be described as follows:

(1) *Teaching of Language* [TOL] Most language programs give attention to the development of student proficiency in the *use* of the language, or languages, involved. That is: Instruction is offered in listening (and understanding), in speaking (and being understood), in reading (with comprehension), and in writing (and communicating). The focus of instruction can be on the initial introduction of a language to students who are new to it, or on the continuing upgrading of language proficiency over time. Thus the target populations for bilingual education can be students for whom the languages involved are primary (i.e., first or native language) or secondary (i.e., second or third languages).* In any case, the emphasis is upon the development of competence in using language, and the curriculum area involved is traditionally labeled "language arts." Thus a Spanish-English bilingual program might offer instruction in both Spanish and English reading and language arts.

(2) *Teaching in Language* [TIL] Instruction in various school subject areas – such as mathematics, science, and social studies (as well as language arts) – may be carried on in both languages of a bilingual program. That is: The languages which make up the program are used as media for carrying on teaching and learning activities in the subjects involved. In an English-Spanish bilingual program, this should mean that Spanish is one medium of instruction, that instructional materials used will be written in Spanish, and that the teacher and learners will communicate with one another in Spanish.

(3) *Teaching of Culture* [TOC] Since language and culture are intimately related, and since a child's sense of identity is grounded in part in the cultural heritage of his or her family, biculturalism is considered an important element of bilingual education. This means helping Hispanic-American children to develop knowledge of their ethnic culture (e.g., Mexican-American, Cuban-American, Puerto Rican-American, and so on), both in its contemporary form and in proper historical perspective, while, at the same time, helping them to gain a knowledge of the general American culture and society. **Instructional materials intended for use in bilingual bicultural programs may deal with *root* or *ethnic-American* culture (e.g., Spanish, Mexican, Cuban vs. Spanish-American, Mexican-American, or Cuban-American), with *fundamental* or *monumental* aspects of culture (i.e., with basic understanding of a culture as a whole vs. studies of selected artifacts, customs, or famous people), and with *contemporary* as well as *historic* aspects of a culture (as it appears today vs. as it used to be). In addition, various traits of culture may, or may not, be described: *material* (including food, clothing, shelter, and technology), *social* (including family and kinship systems, recreation and celebrations, system of government, economic system, and other forms of social organization), *intellectual* (including religion, science, and commonsense reasons for customs, as in folklore), *aesthetic* (including music, dance, literature, sculpture, painting, and ornamentation), and *language*.

---

* In some cases, children from Spanish-speaking American families may not speak Spanish at home but will want to learn it as a second language at school. In other cases, children who speak Spanish at home will want to learn to read and write it at school as well as to have it used as the language of instruction in other subject areas.

** As indicated earlier, a fully bicultural program would be reciprocal in that the children of the majority "Anglo" or other ethnic-American cultures would also be introduced to Hispanic-American culture.

FROM PREFERENCES TO PROGRAMS

In order for an educator to translate preferences regarding which of the preceding elements should be included in a local bilingual education program, it will be useful to consider them in relation to the overall design of that program. The following description of design analysis focuses on instructional materials, but is equally applicable to programs and program planning. [See Figure 2.]

A Framework of Instructional Design

In describing instructional materials for the bimonthly issues of *EPIE Report*, researchers from EPIE Institute use a system for "instructional design analysis." This system is based on a checklist or outline of the various design elements that make up an instructional program. When a set of materials has been analyzed and described using this outline, its elements can be compared with those in a local course of study – provided the local program has been analyzed in a similar way – to determine "goodness of fit." This instructional design analysis can also be used as a framework for coordinating separate curriculum development efforts, the results of which would be brought together into an integrated design.

The system of instructional design which EPIE employs in its analyses of instructional materials is made up of four main constructs:

- *intents:* the rationale, the goals, and the objectives of the intended instruction;
- *contents:* the scope and sequence of the subject matter to be included, and the learning activities to be presented;
- *methodology:* the teaching-learning transactions or methods which are to be employed; and
- *means of evaluation:* the approaches to assessment and evaluation of learning outcomes which are provided or, at least, suggested.

An outline of an adapted and considerably abbreviated version of EPIE's instrument for instructional design analysis constitutes Figure 2.

Purpose of Design Analysis

The main purpose of instructional design analysis is to look for two kinds of congruencies among the main constructs: congruency *within* individual materials and individual programs, and congruency *between* materials and programs. The analysis of such congruencies tells a great deal about the overall integrity of design within a given instructional product. Once descriptive profiles of characteristics within each design element have been completed for sets of materials or instructional programs or both, the analyst looks for consistency within each element and for congruence among them. Evaluation approaches and what is evaluated should be, for example, consistent with objectives, and methodology should be consistent with the contents' scope and sequence.

Then the instructional design profiles of any given set of materials can be compared with the design profiles of the classroom courses of instruction they are being considered for use in. What is sought is a "match" or "fit" between the two.

The First Construct: Intents

Expressions of the intents – the expected results of any course of action – are the developer's underlying rationale and the learner goals and objectives of instructional materials. Rationale statements may cover the developer's reasons for developing the materials in the first place (e.g., to fill a need for a certain type of bilingual materials, to promote a new approach to the teaching of language, and the like). Goals and objectives, on the other hand, are usually statements of expectations for learner outcomes. Goals are usually thought of as being general categories, each of which includes more specific objectives. Both goals and objectives can be stated in varying degrees of specificity (e.g., developing language competency vs. learning specific vocabulary words).

Both can also focus on process (giving students access to certain language- or culture-related experiences or information) or product (actual learning outcomes or behavior changes) and both can deal with either long- or short-term expectations. In any given set of materials, in any course of instruction in a school, or in the classroom practice of any teacher, goals and objectives can be either explicit or implied: They can be clearly stated or they can be understood with different degrees of clarity. Often it is possible to infer goals and objectives from provisions which are made for other elements or constructs of an instructional design, for example scope and sequence or methodology. This is true even though statements of goals and objectives do not necessarily spell out or even suggest the means that should be used to attain them.* Finally, objectives can be fixed or variable, in the sense that they can be exactly the same for all learners or they can vary according to individual differences among learners.

* It is also possible to have a goal-less program in the sense that its ends are so varied or so confused that it acts like a rudderless ship. In such cases, the teacher has the tasks of establishing goals of instruction and of attempting to adapt the materials to meet those goals.

FIGURE 2

Guidelines for Instructional Design Analysis

I. Identification and Background

A. TITLE OF PROGRAM
B. AUTHOR(S)
C. PUBLISHER, DISTRIBUTOR(S)
D. COPYRIGHT
E. MEDIUM(A)
F. COMPONENTS:
Composite list of titles and other materials
G. SUBJECT AREA(S)
H. CURRICULUM ROLE
I. GRADE LEVEL(S)
J. POPULATION CHARACTERISTICS
K. RESEARCH AND DEVELOPMENT EVIDENCE
1. Result of research and development that gathered information on how suitable for and effective with learners a product proved to be (validation).
2. Indications that learner-based revisions of material have been carried out or planned, i.e., that the developer will monitor the use of the material(s) and make changes based on learner feedback (learner-based revision: "L-BR").
3. Materials, locations, and kinds of learners involved.
L. LINGUISTIC CONTENT/LANGUAGE LEVEL (See page xxii)

II. First Instructional Design Construct: Intents

A. DEVELOPER'S RATIONALE
1. Why did the developer produce this material?
2. Degree to which specified
B. LEARNER GOALS
1. Broad, general goals the developer intends the learner to achieve
2. Categories: e.g., "cognitive," "affective," "process," "skills," etc.
3. Degree to which specified
C. LEARNER OBJECTIVES
1. Specific intended outcomes
2. Categories: e.g., "behavioral," "performance"
3. Degree to which specified

III. Second Instructional Design Construct: Contents

A. SCOPE
1. Subject matter the product covers and specific topics and/or skills
2. How material is covered
a. in detail or survey
b. clearly or not clearly
c. number of times material is covered
d. all material required to be covered for a satisfactory experience
e. supplementation required, recommended, supplied

B. SEQUENCE *
1. Order in which learners must use this material, ie., based on chronology; movement from concrete to abstract, increasing complexity, or difficulty; a breaking down of complex ideas into their component parts; principles of programed instruction; a developmental view of the learning process

2. Entry and exit points
a. do all learners begin at the same point in the sequence?
b. who determines starting point: the student, the material, the teacher?
c. on what basis: prior knowledge or experience, interests, test scores, other criteria?
d. do all learners follow the same route?
e. who determines the route: the learner or the teacher?
f. on what basis: performance on preceding tasks, interests, other criteria?
g. are there opportunities for open-ended generalizations, branching, recycling?
h. are advance organizers used?

IV. Third Instructional Design Construct: Methodology *

A. RECOMMENDATIONS FOR USE
1. Is the teaching/learning methodology described?
2. Is the description clear, comprehensive, useful?
3. Where is it located?

B. TYPE OF LEARNING ENVIRONMENT
C. NATURE OF INTERACTION
D. TEACHER/LEARNER ROLES
E. ORGANIZATION

1. Space
2. Time
3. Grouping
4. Pacing

F. LEARNING APPROACHES IDENTIFIED
1. Didactic
2. Programed instruction
3. Discovery
4. Inquiry
5. Experimental
6. Others

V. Fourth Instructional Design Construct: Means of Evaluation

A. PURPOSE
1. Placement
2. Internal measures of achievement
3. Mastery

B. MEANS
1. What is evaluated?
2. Approaches used
   a. norm-referenced, criterion-referenced
   b. interviews
   c. observation
   d. who carries out evaluation and when?
3. How are results recorded and used?

VI. Congruence of Four Instructional Design Constructs

A. CONSISTENCIES (OR INTEGRITY) AMONG DESIGN ELEMENTS (Items II-V above)

VII. Additional Considerations

A. PHYSICAL DESCRIPTION
1. Aesthetics
2. Technical quality

B. SOURCE
1. Spanish materials developed abroad without adaptation for use in the United States
2. Materials translated from English into Spanish without adaptation
3. Materials translated and rewritten in Spanish so as to be more suitable for target population
4. Materials written especially for ethnic-American needs
5. Other (specify)

C. TEACHER TRAINING AND PREPARATION
1. Are pre- and/or inservice materials/workshops available?
2. Are they necessary?
3. Nature of out-of-classroom preparation

D. COMMUNITY ACCEPTANCE/FAIRNESS: Are there instances of biases – stated or implied – in terms of sex roles, race, and cultural, regional, and national backgrounds?

E. ACCURACY

F. CURRENCY

VIII. Overall Assessment and Recommendations

A. SUMMARY COMMENT (by those who have analyzed the materials and examined the evidence)
1. Suitability for use by Spanish-speaking learners in the United States
2. Additional assessments

---

* At this point, some definitions may be helpful.

Principles of programed instruction: Tasks subdivided into very small steps and sequenced in a way that greatly minimizes the chance for error. The learner gets immediate feedback on answers to problems and therefore has learning reinforced or is offered assistance by branching or recycling.

A developmental view of the learning process: Timing for student engagement in various kinds of learning tasks based on estimates of student readiness – neurological, psychomotor, cognitive, or affective.

Open-ended generalizations: Letting the learner try possibilities and alternatives.

Branching: Following an alternative route through the materials because of interests, learning style, flexible objectives, or anticipated trouble or boredom as predicted by entry behavior.

Recycling: Assisting the learner who does not accomplish objectives through the prescribed route by having a portion of the sequence repeated until mastery occurs, or by introducing a new sequence of material.

Advance organizers: "Ideational ladders"-frameworks of key concepts which are related to concepts already known by the learner—sometimes put before or in strategic spots in, the sequence to prepare the learner.

Didactic: Telling the learner the contents.

Discovery: Helping students to find out a fact known to the teacher.

Inquiry: Setting a task for learners to solve on their own, i.e., to come up with one of many possible answers, possibly all unknown to the teacher.

Experimental: Providing experiences from which students will learn different things.

The Second Construct: Contents

The contents of instructional programs and materials is usually thought of as the range of subject matter or skills to be introduced, or "covered," in the pursuit of goals and objectives.

In bilingual education, "contents" can have at least three meanings. Contents can consist of aspects of one or both of the languages of a bilingual program, including listening, speaking, reading, and writing [TOL]. One or more of several different regional dialects may also be involved. Contents can also be described in terms of the subject matter that is conveyed in one or both of the two languages, subject matter drawn from curriculum areas such as mathematics, science, and social studies which may be included in the bilingual program of studies [TIL]. Finally, contents can cover aspects of the culture, or cultures, of which each language is an integral part [TOC]. Whatever the contents is, it is described, in the analyses that constitute these two volumes, under the subheading "Scope," which is the first item under the heading, "Contents."

Contents for bilingual education programs, then, can be selected on the basis of presenting information in the above-mentioned categories. Or, it can be selected because of relevancy to student experience, or because of relevancy to a wide range of knowledge or school subjects, or because of relevancy to everyday life or the learners' cultural backgrounds. Finally, contents can be judged on the basis of its accuracy and its fairness in treatment of sex roles and of people of various ethnic, socioeconomic, regional, and national backgrounds. Especially important to watch out for are overgeneralizations, demeaning statements, and ethnic stereotyping. Contents can also be culturally inaccurate or misleading because information is given out of context and not explained adequately. These matters are of such import – although they still tend to be overlooked by many materials developers and selectors – that they are taken up under separate subheadings in the "Additional Considerations" section on the final page of each analysis: "Community Acceptance/Fairness," and, when appropriate, "Currency" and "Accuracy."

"Sequence" in instructional design involves the way in which content, and the teaching-learning activities related to it, are ordered. The basis for determining sequence can be found, for example, in chronological, simple-to-complex, concrete-to-abstract, abstract-to-concrete, specific-to-general, or general-to-specific patterns. Some of these bases are themselves grounded in development or learning theory, as the stages or levels of Piaget and Gagné, or in the interrelationships or "structures" of various subject fields. Decisions regarding the sequence of instruction, including points of entry, may be made in advance or as the instructional process unfolds; they may be the same for all students or differentiated; they may be made by teachers or other adults, by students, by the producers of instructional materials, or by some combination thereof. Approaches to language instruction, as one example, reflect virtually the full range of alternative approaches or sequencing.

The Third Construct: Methodology

The methodology within an instructional design involves mainly the kinds of teaching and learning activities or "transactions" that are carried on by teacher and learners in order to pursue their goals and objectives through selected contents. Differences in methodology involve differences in regard to four considerations:

- the kinds of activities necessary and sufficient to achieve desired ends;
- whether teachers, learners, or others initiate the activities and assess their outcomes;
- how people and resources are organized to facilitate the instructional process, including whether the activities should take place in the classroom or elsewhere, how students should be grouped to carry out the activities, what kinds of relationships between peers or between students and the teacher are encouraged; and
- who makes the decisions regarding the management and the organization of learning and instruction.

Major kinds of teaching-learning approaches include didactic instruction; programed instruction; guided pupil discovery, or induction, of predetermined skills and understanding; and open-ended inquiry by students. Often several approaches are combined. In the teaching of language, audiolingual, cognitive code, and "eclectic" approaches are among the options.

The Fourth Construct: Means of Evaluation

Evaluation of student performance can take place at a number of points in the instructional process. Included in the design element or construct are: (1) diagnostic assessments which are made to determine a student's prior level of mastery, or appropriate points of entry into the instructional process, (2) assessments of the kinds and qualities of instructional experiences or activities which learners engage in, and (3) assessments of outcomes in terms of changes in student behavior (acquisition of basic or specific skills, increased understanding, and attitude changes).

Evaluation activities can be carried out by learners as well as by teachers, and by a school system as well as at the classroom level. Evaluation standards can be based on general grade/age level expectations for student performance (norm-referenced) or level of learner performance on particular tasks related to the product's objectives (criterion-referenced). Standards may be supplied with the product (e.g., national, regional, or special-group age/grade norms), inherent in the product (e.g., in behaviorally stated objectives), or developed in the school

system, in the school, or in the classroom. Evaluations can be made of any or all dimensions of student development or achievement – affective, perceptual-motor, cognitive, linguistic, creative – as well as of skills and contents specific to school subjects. Descriptions of provisions for evaluation and record-keeping contained in materials, if any, should include what aspects of the teaching and learning are covered (e.g., learning of language or culture), how (and by whom) the assessments are carried on, and who receives and utilizes the results, and how.

Congruence of Four Instructional Design Constructs

After analysts have probed into a program to report on each of the four design constructs, they then consider how congruent the constructs are. In other words, they look for integrity of instructional design. Or, they look for a "fit." For example, does the scope of the contents fulfill the rationale offered by the developer and the learner goals and objectives explicitly stated by the developer or implicit in the materials? Does whatever provision made for evaluation dependably assess whether the learner has realized the goals and objectives? Is it difficult to judge the congruence of the constructs because there is no means of evaluation or because so little is stated about intents that one is obliged to infer what the intents are? Edna St. Vincent Millay once poetically observed, "Euclid alone has seen beauty bare." It is at this point that an analyst when he or she finds *integrity* or *harmony* of instructional design at the same time finds beauty, perhaps not the kind which might have transported Euclid but the kind that can assure a teacher that here is a product which it is likely that teachers can teach from and learners can learn from.

Considerations Other Than Instructional Design

Preceding and following the instructional design considerations in the analyses in *EPIE Report: Number 73* and *74* are other considerations. Basic descriptive information (title, author, publisher, distributor, copyright, and so on) appears at the outset, for analyses of basic programs, under the heading "Identification and Background." "Additional Considerations," which can have varied subheadings, come toward the end of an analysis, followed by "Overall Assessment and Recommendations." Although this last heading is self-explanatory, what is not self-explanatory is a caveat that should go along with it. It is all too easy for materials selectors, who already have unreasonable demands on their time, to look aghast at the lengthy analyses in these two volumes and to seek "quick and easy answers" by simply reading the "Overall Assessment and Recommendations." To do this would be unfair: unfair to the developers of the products and unfair to those who collaborated to produce the analyses. The analyses of those materials which might seem suitable for a certain instructional setting should be *completely* read in order to screen out unsuitable materials – in order to narrow down the options – before examining the materials themselves. The selection process is really a matter of "putting it all togetner."

PUTTING IT ALL TOGETHER

It now seems to be generally agreed that selection of instructional materials is a teamwork job; not only too big for one person or two people working alone, it also benefits from the stimulation of variety. In addition, all concerned points of view are heard and the advantages and disadvantages of available materials are discussed. More important, a forum is provided in which inherent problems such as poor instructional design or bias can be discussed and, ideally, counteracted by all individuals. Finally, not to be overlooked is the good effect on application, interest, and morale of using an item one had a hand in selecting.

In addition, the instructional design framework described above provides a common base for individuals in different roles to collaborate in an interrelated way through a standardized means which should also be coordinated with such activities as curriculum development and staff training.

In some cases, only central selection is a possibility; an education authority must decide what textbooks or other instructional materials it will supply to all schools in its jurisdiction, attempting, insofar as possible, to meet needs common to the whole group or to select materials adaptable to various situations. In the case of multiple adoptions, a central authority such as a state department of education narrows the field for local choice. In such cases, and in situations where there is no centralized adoption, local selection must take place at least school by school, if not teacher by teacher.

The Selection Committee

Whatever the extent of the population one is making a selection for, certain principles should be borne in mind. For one thing, selection should be a team effort. Not only teachers and administrators should serve on a selection committee, but perhaps learners, parents, and, at least in the program planning, other members of the community. The committee will profit from membership of, or consultation with, specialists of various kinds, and someone with specific training in measurement and evaluation should certainly help with the selection process.

Preferably, committee members should be trained for the selection job. It is

regrettable that such training* is almost unheard of, although there have been a few workshops on the subject, and papers, pamphlets, and guides appear with increasing frequency. Committee leaders will find the selection process smoother and more efficient if they will spend some time with the committee discussing how selection should be accomplished, including in the discussion a practice evaluation session. Such sessions reveal differences among the committee members in their approach to the task, and make it possible to resolve those differences before work begins. They also do much to point up the inaccuracy of a number of accepted conventions about selection, for instance, that reading the teacher's manual will reveal whether a student workbook does its teaching job well.

Specific training – brief but important – may be needed in simple evaluation techniques. In recognition of this need, EPIE Institute has designed a training program built around the EPIE System of Materials Evaluation. In 1973-74, this program was launched in statewide training programs in Pennsylvania and California. Other states soon requested this service, and it is currently being conducted by EPIE for many local school systems throughout the country and in Canada. One aim of this systematic training is to develop in committee members a positive orientation toward evaluation:

- healthy skepticism about claims, which leads to a search for supportive information;
- concern for impartiality;
- sense of the necessity for objective information to support or to mitigate subjective opinions, no matter how forcefully they are stated;
- insight into the differences in information sources which can affect the validity, the reliability, and the comparability of information; and
- realization that both stated and covert goals govern evaluation design, together with an appreciation that different goals may all be worthy goals. Such an attitude should underlie every task the committee undertakes, from the establishment of criteria to the final selection.

Instructional Setting

Selection should be made in light of the instructional setting – defined by the characteristics of the community (especially the parents), the school, the teachers, and the learners – in which the materials will be used. What is sought is the best possible "fit" among teacher, instructional programs, instructional materials, and learners.

Extensive investigations have not been conducted in bilingual education on the effect of instructional setting on educational outcomes or even on interactions between materials and users. Instead of comprehensive statistical evidence, there are two major indications that setting does affect interaction between user and material: high face validity and increasing complaints from teachers about materials which are *ineffective* because they are *inappropriate* for the learners or for the teacher's own style. These factors cannot be neglected, even when one deals with heterogeneous groups of users. Three possibilities occur in such a setting: multiple selections to meet different sorts of needs, a thorough search for materials which can be adapted to various situations, and the acquisition of supplementary materials to fill needs which the basic materials fail to meet.

Factors – some, probably most, certainly not all – which enter into the instructional setting which a single school offers are outlined in Figure 3. Note the frequent use of "other" and "etc." throughout the outline, which is intended to encourage additions or reorderings by school decision-makers. A quick check indicates that some of the questions implied in the outline are easily answered; others, particularly in the "General" section, call for digging or soul-searching, or both.

When selection must cover a number of quite different schools, those who will make decisions must synthesize and compare what is known about the various instructional settings as a basis for identifying the sort of instructional materials which will be most efficient at meeting – or being adapted to – disparate needs. The decision-makers may, as a matter of fact, try to bring the disparate settings into closer conformity by the very selections they make, providing for adaptation in a school's emphases on goals and styles rather than adaptation in the way materials are used.

Of course, when selection can be made for a quite homogeneous group, as is the case with many individual schools, statements about their circumstances and requirements, and even teachers' preferences and apprehensions, can be taken into full account in setting selection criteria.

Developing Selection Criteria

A systematic statement of criteria, cooperatively developed, is a remarkably useful tool. The very development of the statement helps to make the bases for selection explicit to all. Use of the statement as a basis for developing evaluation procedures and tools can ensure thorough evaluation of each item under consideration. Moreover, such a statement permits selectors to defend their

* Minimal training is required to use the guidelines in *Figure 2*, but the longer *EPIEform A* used by EPIE analysts requires a minimum of three days training, and is available only to individuals, school districts, or state agencies trained in its use. For further information on this training service, telephone or write EPIE Institute [212-675-1163; 463 West Street New York, NY 10014].

FIGURE 3

Factors in the Instructional Setting

I. General

A. THE COMMUNITY OF WHICH THE SCHOOL IS A PART

1. Size and type: urban, rural, suburban
2. Ethnic composition
3. Socioeconomic level(s)
4. Relationships with, attitudes toward, the school

B. THE SCHOOL ITSELF

1. Support: government, parents, church, other
2. Level(s): primary, intermediate, secondary, other
3. Student Body:
   a. characteristics: sex, age, ability, ethnic, socioeconomic makeup
   b. groupings: criteria, size
4. Purpose: general education, preparation for further education, training in specific skills, etc. (intents: rationale, goals, objectives)
5. Curriculum/subject areas: single or multiple strands? integrated from year to year? integrated across subject matter lines? other points? (How does bilingual education fit in?)
6. Schedule:
   a. length of school year
   b. divisions of year and length
   c. time devoted to each segment of learning, i.e., specific class schedules
7. Developmental activities
   a. curriculum development
   b. inservice teacher training
   c. staff development support and released time
8. Assessment and reporting:
   a. of pupil progress
   b. of program and instruction

C. RESOURCES

1. Staff:
   a. teacher-student ratio
   b. teacher training level
   c. special-purpose teachers:
      art, music, physical education
   d. specialized personnel: media, subject area, counselor
   e. aides and volunteers
   f. administrative and operational support
2. Space: adequacy, attractiveness, flexibility for rearrangement, etc.
3. Materials: library, A-V center, or both; classroom collections; etc.
4. Equipment: projectors, recorders, etc.
5. Community involvement:
   a. cooperating institutions: clinics, churches, civic organization, etc.
   b. extra-school opportunities:
      Boy and Girl Scouts, 4-H, recreation and hobby facilities, etc.
   c. specialists: experts, performers, labor leaders, et al.
6. Budget

D. LEGAL/ADMINISTRATIVE FACTORS

1. contract coverage regulations
2. extra teaching staff time: arrangements concerning materials review, trial use, program planning, etc.
3. public involvement in school decisions

II. Specific to the Program for Which Materials Are Being Selected

A. THE STUDENTS

1. Cultural and language background
2. Abilities and interests
3. Age/grade levels

B. DESIGN OF INSTRUCTIONAL PROGRAM

1. Overall program of instruction
2. Bilingual components of program
3. How 1 and 2 fit together

C. THE TEACHERS

1. Cultural backgrounds and understanding, attitudes
2. Languages spoken/written and levels of competency
3. Training and experience
4. Interest in and commitment to bilingual education
5. Familiarity with these students, this school, this community, this curriculum
6. Prevailing views of bilingual education and teaching/learning, and consequent approaches to teaching

choices when review time arrives. Successive statements supply subsequent selectors with a valuable historical record, particularly useful when change is contemplated.

Basic to the selection process and therefore to statement of criteria are goals: the *overall* goals for the school and the *specific* goals for the material to be selected. And basic to the statement of goals is the point of view, including pedagogical approach, which defines the situation for which selection is being made.

Overall school goals deal with major pedagogical themes: recognition of individual differences, inculcation of personal and social values, attention to equitable treatment of minorities, necessity for comprehensive curricular coverage, desirability of sequential progress through the curriculum, encouragement of independent research, provision for other than the print medium, and such matters. It is becoming more and more necessary that such goals be hammered out, written down, and made explicit to the school's staff and its public. Certainly they are basic to all school planning, not just materials selection; in this day of increased interest and involvement in public affairs by all manner of groups and individuals, it is valuable to be able to publicize just where one stands on certain basic points before anyone feels it necessary to ask. This may be of critical importance in the area of bilingual education.

Other aspects of a local bilingual program's overall instructional design should be developed and clarified also: contents, methodology, and evaluation. The key question in the development of materials selection criteria is: Which aspects of this total program are the materials expected to provide?

The committee will find, when it comes to writing all those appraisal forms, that it will not be too difficult if goals and criteria were worked out carefully. Schools, libraries, and curriculum centers prepare them all the time; here are some hints, based on a review of ones which have already proved themselves.

- First a special caution: Appraisal forms are not tests, and scores, consequently, should not be the end results. If scores were used, two books might receive the same score, one because it was visually attractive though quite inaccurate as to facts, the other because it was accurate but badly printed, ugly, and hard to read. A "profile" of responses to the items on an appraisal form is a much safer guide than a score.
- The selection committee should prepare instructions which its members will follow. Almost any point is open to more than one interpretation, and it is important that the committee come to agreement on each point and take steps to ensure that members bring as close an understanding as possible to their examination of materials and to their integration of information about those materials. Only then can results for many instructional items from several committee members be compared.
- The most useful forms are designed to help users make a good appraisal instead of leaving them floundering about, wondering what they should look for and what should be made of what they find. For instance, instead of merely asking for a checkmark to indicate whether a teacher's manual specifies a methodology, a form might ask questions about specific aspects of methodologies: Are lessons planned in sequence? Are suggested procedures easy to follow? Is there special emphasis on probable problem areas? Are supplementary drills, discussion questions, and outside activities suggested?
- One might stretch appraisers' perspectives by asking them to respond in the context of comparison: Is a multimedia kit better than only printed materials? Is the new series so far superior to the one on hand that it should be substituted for it?
- The committee should provide for some indication of the relative importance of the criteria. With careful thought and discussion, priorities can be assigned, allowing for some flexibility in dealing with priorities so that tradeoffs can be made. It may often happen that a surprising and totally unexpected feature will turn up which justifies ignoring some previously important criterion.
- A reminder is in order here about the value of stating objectives in terms *that are specific enough* to facilitate judgments about whether students are learning what they are expected to learn. Often, stating objectives in terms of specific learner or teacher *behaviors* that should result helps to clarify what materials are actually suitable.

In the quest for a rational system and organization, one sometimes forgets the vital importance of open-ended comment: for successful appraisal *and* for the respondent's morale. For instance, if a teacher is asked to rate from "superior" to "poor" a film's capacity to stimulate classroom discussion or student writing, what will the rating be if the film presents its case so outlandishly badly that discussion will be full, lively, and productive? A little "Why?" or "How?" under the rating scale would help show just how the film would fit into the instructional scheme.

Applying the Criteria

All possible information about materials being considered must be brought to bear before decisions are made; examination of the material, particularly systematic examination with the help of a checklist or questionnaire or some such protocol, gives a broad picture but not necessarily a complete one. If it is at all

possible to do this, the materials should be tried with typical teachers and learners – particularly if their instructional setting is similar – or, at least, information should be gathered from users of the materials in other schools.

The care with which materials are selected to fit intended users, then, is one of the important factors in leading to the effectiveness of materials, and what follows deals mainly with the mechanics of selection, that is, with fitting the materials to users. First, it is important to discuss the other two factors which govern effectiveness: the instructional design of the materials themselves, and the characteristics of the settings the materials will be used in.

Thus, the major work of the committee now begins. Committee members must make arrangements to obtain information not only about what is available but also about what descriptive and analytical information on available materials they can get from outside sources. They must plan for obtaining actual materials for appraisal when they have narrowed the field of "possibles." They must look ahead to the time of trying the most likely materials with teachers and students.

The obvious source of basic descriptive information about instructional materials is the producer, and good relationships with representatives of publishers, other producers, and distributors will mean that many important educational materials will come to the school's attention. But not all! Collecting all those separate bits of information is a chore.

A comprehensive descriptive listing of all available materials for a given purpose is easier to use and may prevent a school's missing good items produced by small companies with small sales forces and small promotion budgets. Several sources of descriptive information exist, primarily for traditional curriculum areas, although a few exist now for bilingual education.

- There are directories or collections of catalogs. Some of them, it should be noted, are supported by publishers and are less than complete and unbiased.
- Reviews and listings appear in general periodicals, in professional journals, in yearbooks, and in special bibliographies, although some "reviews" are actually taken from publishers' brochures or information releases.
- "Guides to the guides" supply listings, sometimes with descriptions, of catalogs, bibliographies, and periodicals which are useful in the selection of library books and nonprint media materials.
- EPIE supplies descriptive (along with analytical) information to schools in the form of an *EPIE Report* such as this, a format much easier to use than separate pieces from each producer.
- An increasingly common source of information, particularly for supplementary materials, is a central collection of materials – located in an instructional materials center, an educational media selection center, or a similarly named facility – where one may examine materials and discuss them with a curriculum specialist.

The first evaluation step for the committee is examination and review of materials. The purpose of examination and review should be not to make final selections but to select materials for further evaluation of an empirical nature. In the past, it has been assumed that materials examined and judged acceptable as to content and approach will also be effective learning tools. They may be; yet research indicates that examination of materials is an unreliable way to judge their learning effectiveness. For instance, in one study a principal and a group of teachers were asked to rate for learning effectiveness alternate versions of materials for which empirical evidence of effectiveness had been collected but not disclosed. The educators' ratings had a correlation of – .75 (yes, that's a minus!) with the empirical measures. A replication of the study by another researcher produced similar results. But practicing educators have not taken much notice of findings of that kind; they are often impervious to research results, particularly those which speak to an area in which they have not yet recognized that they have a problem.

Therefore, to meet the demands which the greatly expanded supply of materials puts upon school decision-makers, examination and review procedures should be refined and systematized. To ensure that examination is thorough, and that observations are reported in comparable terms, the selection committee may want to devise evaluation checklists or questionnaires, or, if professional evaluators are available to help, carefully constructed and weighted rating scales. Good forms greatly facilitate the selection process; they make it possible to summarize and compare committee opinions, and they provide useful records for reference. The selection committee will do well to translate its statements of criteria into a set of appraisal forms, a series of hurdles which materials must negotiate to stay in the running for final selection.

Descriptive criteria can be expressed in concrete terms and therefore used to make the first quick cut through the list of available materials so as to reduce it to a manageable size. A good way to ensure thorough investigation on these points is a yes-no checklist, one which can almost always be completed on the basis of descriptive literature from the producer, of data from EPIE, and of summary catalogs and collections. The checklist might well be in order of agreed-upon priorities, with the most important considerations first; if a reading-readiness phonics program uses Castilian exclusively, for example, a teacher of non-English-speaking Puerto Rican-Americans might feel there is no reason to investigate further that program. Certain descriptive criteria may be absolute

in a way that more subtle ones cannot be.

Materials which survive the descriptive criteria cut might be checked against another checklist, or a questionnaire, based on criteria having to do with instructional setting. Instructional setting questions can usually be answered by reference to such product analyses as those that appear in this *EPIE Report*, or by a careful reading of the teacher's guide. The match between the school the authors envisioned and the actual selecting school will never be perfect; profiles of instructional setting characteristics will help to show what may be possible in the way of supplementation or adaptation.

Information about materials' effectiveness for the job they were designed for is, unfortunately, rarely available. When it is present, it can be used early in the selection process, again by means of a questionnaire or a checklist. Such facts as how many and what types of students the materials were used with, and how outcomes were measured and with what results, can be recorded as descriptive facts are recorded. The information can be very revealing if used with care; here the evaluation expert will be very helpful to the committee. Outstanding evidence that materials really do their job can outweigh some factors which may have given members of the selection committee pause. It is important that the evidence be pertinent to the goals and the conditions of use guiding the committee's choice. Very rarely will the conditions under which a producer tested its materials, or a school used them, match exactly those in the school making the selection. The differences in students, in teachers, and in conditions of use must be noted and assessed; they may modify one's reliance on the resulting information. The more reports there are, of course, the more chance there is for a match, and similar reports from disparate sources might justifiably be extrapolated to one's own situation.

When it comes to applying the subtle criteria of intents, contents, methodology, means of evaluation, and the congruence of these constructs – in short, the instructional design of a material – a simple checklist or questionnaire is not likely to suffice. The committee members will want to devise a more probing form, perhaps a rating scale or a questionnaire which allows for qualified answers rather than just "yes" or "no," which permits recording of observations. It is invariably necessary to study the materials themselves in detail to find out how they measure up to these subtle criteria, even if there is a detailed analysis of a potential material available from an impartial source. Sometimes, the testing of the materials against these criteria is done individually by committee members, sometimes by the whole group in consultation with producers' representatives. Whichever way, the evaluations always should lead to discussion. It is inevitable that materials which are still under consideration at this stage will require some joint committee attention to ensure thorough agreement about how they seem to fit into the school's program and about what further steps should be taken before a final decision is made.

In the rather likely absence of detailed analysis reports, the committee may want to incorporate into its procedures all or some parts of *EPIEform A*, if committee members have been trained to use it.

Implementation and Follow-up

When all the evidence is in, the committee will be ready to make a selection. They may be fortunate enough to have clear-cut evidence of what to do, but it is more likely that weighing and shifting will be needed. Often the committee will be required to account for their selection to the public or to school authorities, or to both. Organizing information for decision-making will also organize it for such eventualities. The effect which the public or authorities can have on final selection varies from situation to situation. Usually, carefully laid groundwork and thorough procedures make acceptance automatic.

This brings us to what can be termed the "Decision Arena." There is no simple formula for making the key decisions regarding the selection or production and use of instructional materials. The final and most specific decisions are probably best made by teachers. But a lot of narrowing down of the field of choice should be made at a broader administrative level, within a school district, at a regional center, or for an entire state since: (a) there are so very many alternatives to choose from that no one teacher, or even school district, can canvass them all; and (b) others in a school system and community need to be involved, especially if materials are considered in the context of overall curriculum planning and training of personnel.

Figure 4 diagrammatically presents the main influences on the decisions which must be made. Running horizontally through the whole diagram is the unifying framework of instructional design constructs. Vertical columns represent the main areas of information-gathering, -analysis, and -clarification in the materials-selection process. The school program of the innermost rectangle is enclosed, in turn, by an outer rectangle representing all other community educational influences, including those of other agencies and children's families. On the periphery are included influences from even wider communities: the state, the nation, and, finally, the total world society with its various cultures and subcultures.

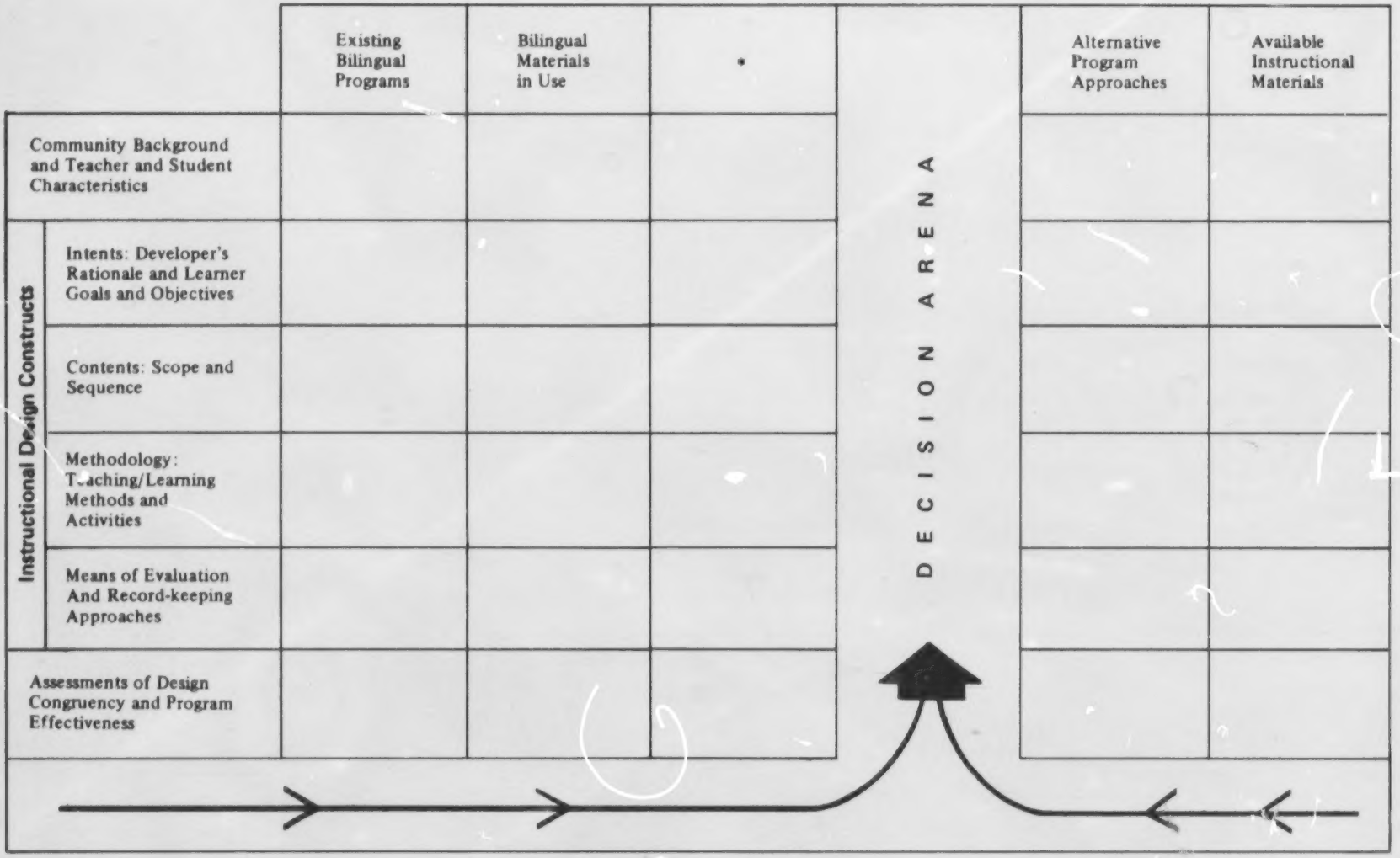
In the central Decision Arena there are basically six alternatives:

(1) continue to use existing materials in existing programs;
(2) select and purchase instructional materials best suited to:

- pupil population characteristics
- teacher characteristics
- overall approach to instruction in bilingual education;

FIGURE 4

Applications of Instructional Design Analysis


Existing Bilingual Programs
Bilingual Materials in Use
*
DECISION ARENA
Alternative Program Approaches
Available Instructional Materials
Community Background and Teacher and Student Characteristics
Instructional Design Constructs
Intents: Developer's Rationale and Learner Goals and Objectives
Contents: Scope and Sequence
Methodology: Teaching/Learning Methods and Activities
Means of Evaluation And Record-keeping Approaches
Assessments of Design Congruency and Program Effectiveness

* For a number of years now, "Instructional Design Analysis" has been used by EPIE to help facilitate the selection of instructional materials by aiding educators in matching available materials to potential users and programs. It is suggested that in this column design analysis, with its common framework for dealing with the basic elements of instruction, can also be applied to other educational tasks and decision-making, such as program development; materials production, materials selection; staff/adult training and development; implementation with learners, (i.e., teaching); obtaining user feedback; and program evaluation.

(3) develop materials locally, regionally, or at state level;

(4) carry out inservice training of personnel (teachers, aides, supervisors, parents) in use of materials and implementation of bilingual education programs;

(5) carry out broader curriculum development and support activities for programs in bilingual education and related areas; and

(6) some combination of 1-5.

FINAL NOTES

EPIE Report: Number 73 (Selector's Guide for Bilingual Educational Materials, Volume 1. Spanish Language Arts) and *EPIE Report: Number 74 (Selector's Guide for Bilingual Education Materials, Volume 2, Spanish "Branch" Programs)* contain three sections of instructional materials analyses: synthesized analyses of basic instructional programs; synthesized analyses of supplementary instructional materials; and synthesized analyses of professional materials.

Materials analyzed in *EPIE Report: Number 73* deal with those elements of semantics, phonology, and syntax applied to the teaching of communication skills, and, in addition, the teaching of reading. The contents of *EPIE Report: Number 74* involve all other subject areas for which materials in Spanish are available. Coverage of both language arts and "branch" or other subject areas in two of the basic series and three of the supplementary programs necessitated that they be included in both Reports. Similarly, analyses of professional materials which could be of interest to teachers of both language arts and other subject areas appear in both Reports as well. Kindergarten materials and early childhood programs are contained in "Report 74" only. Except where indicated, all materials are in Spanish.

During analysis training it became evident – due to the wide variety of materials being considered, to the respective countries/regions of origin, and to equally divergent linguistic capabilities and backgrounds of Spanish-speaking learners in the United States – that those teachers and administrative personnel involved in selecting instructional materials in Spanish would find it helpful to have some assessment of the linguistic content and language level. The National Bilingual Materials Analysis Task Force therefore devised, adopted, and applied the following criteria for the assessment of these very important elements to each instructional material analyzed.

Linguistic Content:

a. Uses language understood by most Spanish-speakers worldwide.
b. Uses language characteristic of a region or country.
c. Uses language unacceptable in overall quality in linguistic content (grammar, syntax, morphology, etc.)
d. Uses culturally charged language.*

Comments for clarification purposes are supplied if necessary.

Language Level:

a. Beginner/Simple: materials designed for students with no or limited experience in the Spanish language.
b. Intermediate: materials designed for students with some experience in the Spanish language.
c. Advanced: Materials designed for students fluent in the Spanish language.

Rationale for this major undertaking in the area of bilingual education materials was developed, in part, through insight gained from *A Better Chance to Learn: Bilingual Bicultural Education*, United States Commission on Civil Rights [Clearinghouse Publication No. 51, May, 1975].

Heading a very long list of people EPIE is most grateful to are the Project Officer, Susan Stairs, of the Multicultural/Bilingual Division, National Institute of Education; Dr. J. Michael O'Malley, Acting Chief, Multicultural/Bilingual Division, National Institute of Education; and Edythe J. Gaines, former member of EPIE's Board of Trustees. Dr. Gaines, now Superintendent of Schools in Hartford, Connecticut, first suggested that EPIE undertake this project when she was with the Board of Education of the City of New York. Appreciation is also extended to those individuals who served on the National Panel on Bilingual Materials: Domingo Dominguez, Felicia Gil, Gary Keller, Nila Marrone, Ernesto Pérez, Eva Somoza, María Medina Swanson, Carmen L. Velkas, Jacob Wong, and John Young; and to members of the National Bilingual Materials

* Instructional materials can be written using words and phrases that carry certain connotations that go beyond their standardized meanings. This does not mean that any language understood by a particular ethnic group is culturally charged. Culturally charged language refers to words and phrases used by ethnic groups that have no equivalent in the language used by other ethnic groups, nor are they translatable. These words and phrases have a strong cultural impact on the particular group to which they belong. Examples of these words and phrases are the following: "hijole"; "Ay bendito"; "chevere"; the sentence: "Ay bendito, me perdí la trulla en casa de padrino"; and, other colloquial words and phrases that are part of the everyday language of a particular group.

Analysis Task Force. These analysts join several scores of materials analysts trained by EPIE Institute to date whose names are listed in *EPIE Report: Number 74*.

Special recognition is also extended to Carmen L. Velkas, Project Director, and the entire Staff of the Regional Cross-Cultural Training and Resource Center, Title VII, of the City of New York which provided a great deal of assistance and advice throughout the project and submitted numerous volumes of instructional materials for analysis.

Synthesized Analyses of Basic Instructional Programs
Spanish "Branch" Subjects

ÁREA DE MATEMÁTICAS PROGRAM II

Identification and Background

TITLE: Área de Matemáticas Program II

AUTHORS: Emiliano Martínez (Director), Gloria Roldán (Director, area of mathematics)

PUBLISHER: Santillana, S.A.; Elfo, 32; Madrid – 27 (distributed by Santillana Publishing Company; 575 Lexington Avenue; New York, NY 10022)

COPYRIGHT: 1971-74

MEDIUM: print (textbooks, consumable text/workbooks, and consumable workbooks)

COMPONENTS:

Delta 4/5, 6-8 (textbooks)
Fichas de trabajo 1-3 (text/workbooks)
Fichas de trabajo 4-8 (workbooks)
*Fichas respuesta 1-2, 3-8** (answers for workbooks)
*Tecnología educativa 1-5**, *6-8* (teacher's guides)
Pruebas de evaluación (Santillana Evaluation System**)
Fichas de evaluación (evaluation materials)
Tecnología educativa (teacher's test manuals)
Tecnología educativa (teacher's test manuals for final tests)

*not available for analysis
**One Santillana Evaluation System covers the evaluation components for Santillana's mathematics, language, social science, and natural science series. It must be purchased as a complete system.

SUBJECT AREA: mathematics

CURRICULUM ROLE: basic

GRADE LEVELS: 1-8

POPULATION CHARACTERISTICS: Not specified.

RESEARCH AND DEVELOPMENT EVIDENCE: None specified.

LINGUISTIC CONTENT: Uses language understood by most Spanish-speakers worldwide. Makes use of highly technical vocabulary.

LANGUAGE LEVEL: 1-8, advanced.

17

First Instructional Design Construct: Intents

DEVELOPER'S RATIONALE: "We do not intend to teach many concepts... [but to] direct the path the child should follow to learn the format of discovering them. We are committed to put the child in contact with the method of investigation in mathematics."

LEARNER GOALS: The authors cite as goals of the program those developed by the Madison Project, funded by the U.S. Office of Education. Paraphrased, these goals include the ability to develop mathematical models, the ability to utilize individual exploration, the achievement of an understanding of basic mathematical concepts and of how they are interrelated, mastery of important techniques, the acquisition of mathematical symbols, and knowledge of mathematical facts.

LEARNER GOALS: Objectives are clearly outlined in the manuals in two categories, based on Bloom's *Taxonomy of Educational Objectives.* The following are selected from level six, Unit one (which has a total of 12 objectives): "To recognize the symbolic form of representing negation of a proposition ($\sim$) ... To translate to verbal form a truth relationship between two propositions given symbolically as T and F... To apply general principles to the resolution of concrete problematic situations..."

Second Instructional Design Construct: Contents

SCOPE: The following general topics are covered in increasing depth and detail: natural and positive rational numbers; number systems; sets; measurement; geometry and geometric transformations; logic; correspondence and relationships; topology; fractions; space; algebraic structures; lineal applications; probability; and equations. Concepts build upon previous learning in each unit.

SEQUENCE: The sequence appears to be linear with fixed entry and exit points. A "recuperación" section has been included in each unit for recycling. Listed under this heading are objectives, based on results from assessment activities, as well as model exercises. Branching, under the heading "ampliación," is for those learners who have demonstrated mastery.

18

Third and Fourth Instructional Design Constructs

METHODOLOGY: The developers have spared no effort in describing their methodology as a discovery approach to the teaching of mathematics. Heavy emphasis is placed on scientific investigation. This is a modern mathematics program in the strictest sense, utilizing highly technical vocabulary. Instruction is carried out via class, small group, and individual activities. Correspondingly, the type of interaction among learners also varies. Individual learner differences are consistently provided for through structured recycling activities and less-structured branching activities.

User instructions are useful and detailed. The format which is used for the presentation of each unit begins with a general orientation followed by the statement of objectives, explicit instructions for the presentation of material, evaluation, accommodations for learner differences, and a summary of materials needed for the unit.

MEANS OF EVALUATION: Two methods of measuring learner progress have been incorporated in the program. In order that the teacher may closely monitor learner progress, each unit, beginning at level two, contains a section in the guides called internal evaluation. Key worksheet activities are signaled, giving the teacher an indication of how well, if at all, the learner has achieved the objectives. Results are to be used as a guide for teacher judgment in regard to branching and recycling activities.

The Santillana Evaluation System, a group of prepared criteria-referenced tests, provides continuous assessment of learner progress for the language, mathematics, social science, and natural science programs. Five SES tests (six, including the final) are provided for each subject area on each level. The evaluation units come complete with objectives selected from the previous five units and suggestions for grading and interpretation of results. Two sets of manuals, one for the SES and one for the final test, along with record-keeping cards, are also available.

Congruence of Four Instructional Design Constructs

SUMMARY: The design constructs appear to be wholly congruent.

Additional Considerations

PHYSICAL DESCRIPTION: With the exception of the textbooks, all books are softbound. The workbook materials are consumable, as is the SES. Many pages in the workbooks analyzed seemed to loosen quite easily. Textbooks are illustrated in color, while the workbooks are primarily in black and white. For the most part, the graphics facilitate understanding of the material. The type size in the SES levels-one and -two materials is quite small.

The Santillana Evaluation System is composed of eight softbound guides, eight guides for the final tests, and a consumable test package for each level (which consists of tests for all four subject areas, the final tests for those areas, and record-keeping cards). If teachers wish to use the testing materials for only one of the areas, for example, they must purchase the entire system. The internal evaluation materials are, however, incorporated in the workbooks.

SOURCE: Spanish materials developed abroad without adaptation for use in the United States.

COMMUNITY ACCEPTANCE/FAIRNESS: Material dealing with Spanish currency is not relevant to the U.S. Spanish-speaking learner.

Overall Assessment and Recommendations

SUMMARY: One analyst notes the modern mathematics approach faltered somewhat in the 1960s and now, in the U.S., modern mathematics and traditional techniques have been integrated. For this reason, the content of this program is not comparable to what is taught at the same grade levels throughout the U.S. Similarly, the language is advanced and technical.

Strengths of this program lie in the instructional design, the very helpful and comprehensive teacher's guides, and consistent concern with alternate modes of instruction and individual learner difficulties. Nonetheless, analysts reserve recommendation of this series for use in U.S. bilingual programs.

BILINGUAL EARLY CHILDHOOD PROGRAM

Identification and Background

TITLE: Bilingual Early Childhood Program

AUTHORS: Southwest Educational Development Laboratory
Shari Nedler, Director, Early Childhood Program
Joyce Evans, Program Coordinator

PUBLISHER: National Educational Laboratory Publishers, Inc.; 813 Airport Boulevard; Austin, TX 78702 (The publisher is also the distributor.)

COPYRIGHT: 1970-73 (enters public domain September 1978)

MEDIA: print (preprinted spirit masters), visuals, filmstrips, audiocassettes, transparencies, records, manipulatives, games, puzzles, and walking patterns

COMPONENTS:
BECP Level One
BECP Level Two
BECP Level Three
BECP Staff Development Kit

SUBJECT AREA: early childhood education

CURRICULUM ROLE: basic

GRADE LEVELS: Level I, three-year-olds; Level II, four-year-olds; Level III, five-year-olds

POPULATION CHARACTERISTICS: Spanish-speaking children from economically disadvantaged families.

51

RESEARCH AND DEVELOPMENT EVIDENCE: Developers state: "The lessons and activities were developed, tested, and revised over a period of several years. On the basis of classroom observations, teachers' reports, and test results, lessons were revised until they proved to be both *enjoyable* to teachers and children and *effective* for producing learning. This information was also used to sequence the lessons – to place them in the right order so that learning could come smoothly and easily."

Pilot testing and revision revolved around the following three criteria:
(1) Did the children learn what the activity was designed to teach them?
(2) Did the children enjoy the activity?
(3) Did the teachers feel the activities, methods, and media were appropriate?
Only those items meeting all three specifications were included; others were eliminated.

LINGUISTIC CONTENT: Uses language understood by most Spanish-speakers worldwide.

LANGUAGE LEVEL: preschool, beginner/simple.

52

First Instructional Design Construct: Intents	Second Instructional Design Construct: Contents
DEVELOPER'S RATIONALE: "The need for this kind of program is clear. Economically disadvantaged children from all ethnic and cultural backgrounds tend to be less prepared than more advantaged children when they enter school, and tend to fall further behind each year. For the most part, if they are behind when they begin, they never catch up. School becomes associated with frustration and failure. The problem is even more serious for economically disadvantaged Spanish-speaking children because they are less familiar with the English used in the schools. . .In some areas of the Southwest, for example, a large percentage of the Mexican American children fail the first grade."	**SCOPE:** Lessons are organized into units built around a single theme (e.g., body awareness, wild animals, food, tools, community helpers, self-awareness). Elements of the major instructional categories can be summarized. Visual Training: visual constancy for properties of materials, classification of visual stimuli, figure-ground relationships, spatial relationships, visual memory, and part-whole relationships. Auditory Training: identification, discrimination, imitation, listening comprehension, memory, word and sound analysis. Motor Training: body concept, gross motor skills, laterality, directionality, fine motor skills, ocular-motor coordination, tactile discrimination, and memory. Ideas and Concepts: recognition, labeling, association, comparing, categorizing, describing, and synthesis and application. Syntax of English and Building Vocabulary, gradually integrated into the curriculum beginning on the second level, are designed to teach Spanish-speaking children to understand and to speak English. The third level introduces the Prewriting element. It builds on previously developed motor training skills and prepares learners for writing and for other pencil activities. Eye-hand coordination, basic line forms, and writing letters and numerals are treated. The Exploring and Discovering element, also introduced on the third level, involves general scientific and mathematical concepts.
LEARNER GOALS: "The general goals of the instructional program are: • to develop the child's sensory-perceptual skills; • to develop the child's language skills in both English and Spanish; • to develop the child's thinking and reasoning abilities; and • to help the child to develop a positive self-concept." It is also stated: "As the child develops, he [sic] can explore further, gain competence, increase his [sic] interpersonal and intrapersonal skills, and ultimately incorporate these many aspects of growth and learning into a system of intelligent behavior." On the overview chart numerous goals are grouped into four categories which appear at all levels of the program: visual training, auditory training, motor training, and ideas and concepts. Two categories, syntax of English and building vocabulary, are introduced at level two, and two other categories, prewriting and exploring and discovering, begin on level three.	**SEQUENCE:** Learners may enter the program at age three and move through all three levels successively, or they may enter at age four and progress through levels two and three only. Since concepts, skills, and experiences covered in the first level are reviewed in level two, children who enter the program at age four will be exposed to the same material as those who have experienced the level-one program. Understandably, those who have completed level one will work more quickly than those who enter the sequence without prior exposure. Based on performance on unit tests, reteaching groups are to be formed for recycling. "The program is a *developmental* one, concerned with the general cognitive, psychomotor, and affective stages common to all children. Because it is sequential, the program enables each child to achieve successive levels of competence, moving, and growing as he [sic] is ready to do so. . .We believe that if the activities are matched to the information the child has already stored and skills. . .already developed, his [sic] first experience with formal learning will be successful and enjoyable."
LEARNER OBJECTIVES: Objectives are stated for each lesson in the Instructional Component Books. The following examples were selected from Level I, Unit Two: "Conditions: (1) Show the child a life-size body outline on paper; (2) Tell him [sic] to name the body parts on the body outline as you point to them. Behavior: The child will name two body parts as you point to them on the outline." Relevant to the objectives are stated purposes: "The purposes of this lesson are to familiarize the child with body parts and their labels, and to help him [sic] learn to recognize them on a body outline."	

Third and Fourth Instructional Design Constructs

METHODOLOGY: The approach, management techniques, and procedures are described entirely in many of the teacher preparation components, but the most general orientation is available in the Preservice Manual, Volume I.

Developers propose that their efforts have been expended to "... build a program which is both comprehensive enough to stimulate general intellectual development and successful in matching activities to the interests and abilities of the children..." Thus, many different kinds of lessons and teaching methods have resulted. Since various areas of development are included, content as well as process objectives have resulted, direct instruction and discovery methods are used (some requiring media while others may not), responses range from motor activity to oral and written expression, and there are variant instructional settings (large groups, small groups, and individual activities).

New learning, including the entirety of level one, is done in Spanish. Later, topics are taken up in English and, by the end of level three, most teaching is done in English. A class is designed to be composed of a supervising teacher, an assistant teacher, and 20-25 children. Extensive coordination of effort between teacher and assistant, as well as lesson and unit planning, are expected. Roles of each are thoroughly described. Scheduling possibilities for half- and full-day programs are suggested. A unit takes at least six days to complete.

Because of the developmental nature of the program, all children must meet the same objectives for each lesson. Most classes will be divided into three to four groups; two will be engaged in planned instructional activities with the teacher and the assistant, while one group will work on self-chosen independent activities. A fourth group may be formed for daily reteaching purposes. Several methods of grouping are suggested, and teachers are encouraged to experiment. Groups need not be the same for all activities. Teaching a small group means that a lesson may have to be taught two to four times a day. The advantage, however, is that lessons should proceed quickly.

Although suggestions are made, deciding which language to use for lessons is up to the teacher. For this reason, duplicate curriculum guides are provided (six to seven for each level in each language) so that plans are available in both languages. Plans for lessons which must be taught in one language *only* are not duplicated. Procedural instructions for each lesson include a description of necessary materials, the instructional element being covered, objectives, special instructions, introduction, demonstration and interaction, conclusion, and expansion.

55

Other noteworthy characteristics include a Parent Involvement Component for each level, consisting of a guide for implementing the program and home activities for parents. The developers also recognize the necessity for tending to the child's personal and social development. Teachers are therefore urged to supplement lessons with elements that complement the learner's interests, needs, and cultural heritage. *Paso a paso con los niños* (songs and dances) is supplied to satisfy this purpose for Mexican-American children.

MEANS OF EVALUATION: Unit tests measure the child's ability to meet the objectives toward which each of the lessons builds. Not all the objectives of lessons are tested. Tests include up to 10 items and are accompanied by references to the lesson that teaches the concept or skill being tested. All instructional elements are tested except prewriting (which is tested via diagnostic review), building vocabulary (which is not systematically tested), and syntax of English (which is tested in special evaluation review activities). Instructions for testing these elements appear in appropriate places in the curriculum guides.

Mastery tests, given four times during the year, are designed to measure a child's mastery across several units. Unlike the unit tests which require children to recall what has been taught, mastery tests require children to generalize or apply what has been learned to problematic situations. The first mastery test is also administered at the beginning of the year as a pretest and the last as a posttest, whether the class has finished the program or not.

Both types of tests are to be administered to each child individually, except for the motor training element in which performance will not be hindered by learners being in close proximity to one another. All items are to be tested in the language taught and, in the event the teacher has made changes in the language used for teaching, each test appears twice, once in Spanish, once in English. A scoring grid allows the teacher objectively to determine individual mastery and class performance on each item. In this way, reteaching groups can be readily formed and correction easily made; in addition, data for the learner-based revision of the materials can be gathered. Conditions for testing, interpretation of results, and suggestions for correcting problems are thoroughly described.

Congruence of Four Instructional Design Constructs

SUMMARY: It is not entirely clear why three of eight instructional elements are tested by means other than the unit and mastery tests. Nonetheless, the design constructs do reflect an unusually high degree of congruence.

56

Additional Considerations

PHYSICAL DESCRIPTION: Each BECP level is contained in two 15" x 12" x 13" heavy cardboard cartons. One box contains most of the visuals, manipulatives, records, and media packets, arranged in unit folders. The other contains filmstrips and other visuals, but is primarily composed of instructional component guides, staff development components, and parent involvement components and activity packets. Identical components contained in each of the three kits are the staff development books (three preservice and two inservice guides), the parent involvement component (the activity packets do vary), and *Paso a paso con los niños*, a collection of songs and dances consisting of three records and a book. All materials are nonconsumable.

Visuals are of good quality; the majority are in black and white. Necessary materials for each lesson are indicated in the instructional components guides and are coded: X indicates materials must be made or prepared in advance; Y indicates materials are provided in the media packets; XY indicates materials are provided in the media packets but require some advance preparation; Z indicates commercial products; and no code indicates equipment is generally available. Supplied materials which must be cut may not fit back into the media packets easily. In the back of the Preservice Manual, Volume I, commercial items, required art supplies and classroom equipment, and materials to be collected for each of the three levels are listed. Suggestions are numerous and range from a homemaking center to a wastebasket.

TEACHER PREPARATION: Local supervisors are to participate in a seven-to-ten-day preservice workshop. A staff development kit has been provided for supervisory personnel (program directors or coordinators, principals, curriculum supervisors et al.), containing a Supervisor's Manual, an Administrator's Handbook, 12 filmstrips, and six audiocassettes. The materials describe in detail and, at length, responsibilities of all individuals involved in the program, sample lessons for each of the instructional elements, how the materials are to be used, and how to set up preservice training (one week) and inservice training (two-three hours per week) for teachers. In addition, three preservice volumes and two inservice volumes are contained as part of the instructional materials kits which give the teacher an overall view of the program, model lessons, and directions for testing, classroom management, and setting up the classroom.

57

SOURCE: Spanish and English language materials developed specifically for ethnic American needs.

COMMUNITY ACCEPTANCE/FAIRNESS: The materials were developed in the southwestern United States and are most suited—judging from components such as *Paso a paso con los niños* and depictions of southwestern cities in the filmstrips—to Mexican-American children. This does not mean that the materials could not be implemented successfully with other Hispanic groups in other areas of the United States with minor substitutions.

Overall Assessment and Recommendations

SUMMARY: BECP appears to be the most comprehensive early childhood program available to bilingual educators. It is representative of a thorough effort in educational materials development based on pilot testing and revision. Most valuable assets of the program involve the staff development and teacher preparation components. Supervisors, as well as teachers, are to be involved in the implementation of the materials, and effort has not been spared to avoid problems by providing preservice workshops and training sessions and to allow for resolution of problems via inservice sessions. Sample staff development topics range from hiring and supervising of teachers to dealing with problems of misbehavior among learners.

One of the most valuable assets of the program is the design of the evaluation construct. The unit test grid permits the teacher objectively to determine mastery and to pinpoint areas of learner difficulty. Furthermore, on the basis of an interpretation of the results, teachers can obtain a fair indication if organization, or other determinants within their realm of decision-making, have contributed to underachievement.

58

Identification and Background

TITLE: Bilingual Kindergarten

AUTHORS: Southwest Educational Development Laboratory
Shari Nedler, Director, Early Childhood Program
Joyce Evans, Program Coordinator

PUBLISHER: National Educational Laboratory Publishers, Inc.; 813 Airport Boulevard; Austin, TX 78702 (The publisher is also the distributor.)

COPYRIGHT: 1970-73 (becomes public domain September 1978)

MEDIA: print (preprinted spirit masters), visuals of various types, filmstrips, audiocassettes, transparencies, records, manipulatives, games, and puzzles

COMPONENTS:
Bilingual Kindergarten
Bilingual Kindergarten Staff Development Kit

SUBJECT AREA: kindergarten curriculum

CURRICULUM ROLE: basic

GRADE LEVEL: k

POPULATION CHARACTERISTICS: Developed for economically disadvantaged Spanish-speaking children.

59

RESEARCH AND DEVELOPMENT EVIDENCE: Developers state: "The lessons and activities were developed, tested, and revised over a period of several years. On the basis of classroom observations, teachers' reports, and test results, lessons were revised until they proved to be both *enjoyable* to teachers and children and *effective* for producing learning. This information was also used to sequence the lessons, to place them in the right order so that learning could come smoothy and easily."

Pilot testing and revision revolved around the following three criteria:

(1) Did the children learn what the activity was designed to teach them?
(2) Did the children enjoy the activity?
(3) Did the teachers feel the activities, methods, and media were appropriate?

Only those items meeting all three specifications were included. Others were eliminated or revised.

LINGUISTIC CONTENT: Uses language understood by most Spanish-speakers worldwide.

LANGUAGE LEVEL: k, beginner/simple.

60

First Instructional Design Construct: Intents	Second Instructional Design Construct: Contents
DEVELOPER'S RATIONALE: "The need for this kind of program is clear. Economically disadvantaged children and/or children with limited English vocabulary from all ethnic and cultural backgrounds tend to be less prepared than other children when they enter school, and they tend to fall farther behind each year. If children are behind when they begin the first grade, they rarely catch up. As a result, they associate school with failure and frustration... An even more serious problem among economically disadvantaged Spanish-speaking children is their lack of familiarity with the English used in most schools... In some areas of the Southwest, for example, as many as 80% of all Mexican-American children fail the first grade, and the percentage of these children who are labeled as retarded and placed in special classes is inordinately high."	**SCOPE:** Different content and skills areas are organized into units built around a single theme, e.g., self concept, clothing, community helpers, transportation, school, body awareness. Each of the 12 units consists of some 50-55 planned lesson activities as well as five-to-seven related assigned activities to be worked on independently. Instructional elements constitute several areas. Visual Training: constancy, spatial relationships, part-whole relationships, and classification. Auditory Training: discrimination of sounds, associating sounds with sources, perception, recollection, reproduction of rhythm and sound patterns, following directions, and English language inflectional and intonational patterns. Motor Training: gross and fine motor skills, direction of movement, and coordination of movements with language and visual tasks. Prewriting: preparation for first-grade pencil activities and writing letters and numerals. Ideas and Concepts: introduction of concepts and related ideas and the incorporation of skills that are related to a concept or to its application, labeling in both languages, developing category rules, classification, parts and functions of objects, description, narration, explanation, generalization, and prediction. Syntax of English: internalization and generalization of basic syntactical structures. Building Vocabulary: vocabulary enrichment through informal group activities. Mathematics Skills: classification, concept of number, properties of sets, and polar concepts related to size and quantity. Spanish language structure is gradually increased in complexity.
LEARNER GOALS: "The general goals of the instructional program are to: (1) develop the child's sensory-perceptual skills (basic motor, visual, and auditory abilities); (2) develop the child's total language skills in both English and Spanish; (3) develop the child's general knowledge and thinking and reasoning abilities; and (4) help the child develop a positive self concept."	**SEQUENCE:** Learners enter at the same points but may work at varying rates, depending on past experiences (both inside and outside school). Learners may not skip a lesson since the program is a developmental one. "Within each skill area, lessons begin with the lowest order of skill and proceed systematically to higher levels. New lessons build sequentially upon earlier lessons and encourage progress toward still higher behavioral objectives. Related lessons do not necessarily occur sequentially within one unit or within one curriculum element, however." Recycling is handled via reteaching groups based on criterion-referenced test performance.
LEARNER OBJECTIVES: Objectives are stated for each lesson in the Instructional Component book. The following examples were selected from unit four. "Conditions: 1. Give the child geometric shapes (circles, rectangles, diamonds) in big and little sizes. 2. Tell him [sic] to put big shapes in one stack and the little shapes in another stack. Behavior: The child will separate the circles, rectangles, and diamonds into two stacks according to size." Relevant to the objectives are stated purposes. "The purpose of this lesson is to develop the child's ability to perceive the differences in size and to identify and match geometric shapes according to size."	

Third and Fourth Instructional Design Constructs

METHODOLOGY: The program is thoroughly developed so that functions of materials and/or curriculum development need not be an additional task for the teacher. Decisions regarding adaptation of the curriculum to the conditions of the particular site constitute a general description of the teacher's role. For example, even though suggestions are made, teachers must decide which language to teach in, they must arrive at appropriate pacing, and they must know how to provide for the cultural enrichment of the target population. (For Mexican-American learners, *Paso a paso con los niños* is supplied.) Detailed instructions for coordinating and planning learning activities between teacher and assistant teacher are supplied.

"The curriculum has been designed and sequenced so that the children can experience continued success in mastering gradually more difficult tasks." Since the program is designed to be comprehensive enough to stimulate general intellectual development and successful in matching activities to the interests and abilities of the learners, the following approaches are adhered to. Though alterable, Spanish is suggested in the early lessons and English toward the end. New learning is to be introduced in Spanish and taken up later in English. Since activities are keyed to developmental levels, early activities rely heavily on manipulation of concrete objects while, later on in the year, basic skills used for thinking about and solving problems are stressed. Manipulation is replaced by paper-and-pencil activities. Many skills and content areas have been included. Objectives revolve around both content areas and process. Learners at times initiate; they are encouraged to discover and participate in game strategies as well. Various media are used, and instructional settings must accommodate grouping and individual learner activities. And last, responses range from motor responses to more complex oral and written forms.

Four groups, approximately equal in size, are to be formed. Two groups are to work with the two teachers, a third is to be involved with an assigned activity, and the last engaged in self-chosen independent activities. Many techniques for the formation of groups are suggested. Grouping need not remain the same for extended periods of time and groups do not necessarily have to be the same for all types of lessons.

The Instructional Component guides are printed in duplicate—one in English, one in Spanish—and provide the lesson plans. A typical lesson description contains the skill or content area, the suggested language of instruction, objectives, necessary materials, special instructions, introduction, demonstration, interaction, conclusion, and, at times, expansion. Different modes of scheduling, i.e., half-day and full-day, can be found in Preservice Manual, Volume I. There is also a Parent Involvement Component consisting of a guide for implementing the program and home activities for parents.

MEANS OF EVALUATION: Unit and mastery tests have been developed. Unit tests measure the child's ability to meet the objectives that come at the end of strands of lessons, i.e., the objectives toward which each of the lessons builds. Not all the lesson objectives are tested. Tests include up to 10 items and are accompanied by references to the lesson that teaches the concept or skill being tested. All instructional elements are formally tested except syntax of English. Beginning in unit six with the introduction of actual writing of letter symbols, the last lesson of each unit (a diagnostic review) is used for evaluation purposes. Children must be able to write the letters taught in the unit. Before unit six, prewriting is tested in units three and four only. The building-vocabulary element does not have specified behavioral objectives. Rather, the three-to-five corresponding lessons in each unit focus on developing English language vocabulary, if any, related to the unit. Vocabulary items on unit tests are designed to measure the child's ability to name in English those items.

Mastery tests are given four times during the year. They are designed to measure a child's mastery across several units. Unlike the unit tests which require the children to recall what has been taught in the lessons, mastery tests require the children to generalize or to apply what has been learned to problematic situations. The first mastery test is also administered at the beginning of the year as a pretest and the last as a posttest, whether the class has finished the program or not.

Both tests are to be administered to each child individually except for the motor training element in which performance will not be hindered by having learners in close proximity to one another. All items are to be tested in the language taught and, in the event that the teacher has made changes in the language used for teaching, each test appears twice, once in Spanish, once in English. A scoring grid allows the teacher to determine objectively mastery and to check class performance on each item. In this way, reteaching groups can be readily formed and corrections easily made. Conditions for testing, dos and don'ts, interpretation of results, and suggestions for correcting problems are thoroughly described.

Congruence of Four Instructional Design Constructs

SUMMARY: Inexplicably, the syntax of English element has not been provided for in the evaluation construct. The design constructs are, nevertheless, highly congruent.

Additional Considerations

PHYSICAL DESCRIPTION: The *Bilingual Kindergarten* is contained in two 15" x 12" x 13" heavy cardboard cartons. One box contains most of the visuals, manipulatives, records, and media packets which are arranged in unit folders. The other box contains filmstrips and other visuals, but is primarily composed of instructional component guides, staff development components, and parent involvement components and activity packets. *Paso a paso con los niños*, also included, is a collection of songs and dances of Mexican origin consisting of three records and a book. All materials are nonconsumable.

Visuals are of good quality; however, the majority are in black and white. Necessary materials for each lesson are indicated in the instructional components guides and are coded: X indicates materials must be made or prepared in advance; Y indicates materials are provided in the media packets; XY indicates materials are provided in the media packets but require some advance preparation; Z indicates commercial products; and no code indicates equipment is generally available. Supplied materials which must be cut may not fit back into the media packets easily. In the back of the Preservice Manual, Volume I, commercial items, required art supplies and classroom equipment, and materials to be collected are listed. Suggestions are numerous and range from a homemaking center to a wastebasket.

TEACHER PREPARATION: Local supervisors are to participate in a seven- to-ten-day preservice workshop. A staff development kit has been provided for supervisory personnel (program directors or coordinators, principals, curriculum supervisors, et al.) containing a Supervisor's Manual, an Administrator's Handbook, 12 filmstrips, and six audiocassettes. The materials describe in detail and at length responsibilities of all individuals involved in the program, sample lessons for each of the instructional elements, how the materials are to be used, and how to set up preservice training (one week), and inservice training (two-three hours per week) for teachers. In addition, three preservice volumes and two inservice volumes are contained as part of the instructional materials kits which give the teacher an overall view of the program, model lessons, directions for testing, classroom management, and setting up the classroom.

SOURCE: Spanish and English language materials developed specifically for ethnic-American needs.

COMMUNITY ACCEPTANCE/FAIRNESS: The materials were developed in the southwestern United States and are most suited–judging from components such as *Paso a paso con los niños* and depictions of southwestern cities in the filmstrips–to Mexican-American children. But this does not mean that the materials could not be implemented successfully with other Hispanic groups in other areas of the United States with minor substitutions.

Overall Assessment and Recommendations

SUMMARY: A full complement of staff development components not only guides supervisors and teachers through planning and initial implementation stages, but also allows for resolution of potential problems that may arise during the school year. Instructions are complete and explicit, covering all areas: preservice and inservice workshops, responsibilities of all involved in the teaching/learning task (including supervisors, teachers, and parents), testing procedures, setting up the classroom, management, and use of materials. A useful evaluation instrument supplies the teacher with information that can be directly and immediately applied to eliminate gaps sure to become causes of future learner difficulty. Since the materials are presented in both languages, teachers are afforded enough flexibility to make these alterations. Hence, the teacher is given to decision-making, effecting necessary changes that will best serve the learners. The program receives full recommendation.

EL CAMINO HACIA LA BUENA SALUD

Identification and Background

TITLE: El Camino hacia la Buena Salud

AUTHORS: CANBBE (Curriculum Adaptation Network for Bilingual Bicultural Education)

PUBLISHER: Dissemination and Assessment Center for Bilingual Bicultural Education; 6504 Tracor Lane; Austin, TX 78721 (The publisher is also the distributor.)

COPYRIGHT: 1975

MEDIA: print (workbook) and visuals

COMPONENTS:

Cuaderno de ejercicios (workbook)
Guía para el maestro (teacher's guide)
*Serie de posters** (eight posters)

*not available for analysis

SUBJECT AREA: health education

CURRICULUM ROLE: basic

GRADE LEVELS: k-3, as assessed by analysts; developers state recommended for use on the "elementary level"

POPULATION CHARACTERISTICS: Materials written for the Mexican-American learner.

RESEARCH AND DEVELOPMENT EVIDENCE: None specified.

LINGUISTIC CONTENT: Uses language understood by most Spanish-speakers worldwide.

LANGUAGE LEVEL: k-3, beginner/simple.

First Instructional Design Construct: Intents

DEVELOPER'S RATIONALE: "Health is an integral part of our lives and the child should understand what good health is."

LEARNER GOALS: (implied) To answer the issues of why and how we should maintain healthy bodies.

LEARNER OBJECTIVES: Each unit has at least five objectives stated in the teacher's guide, based on B.S. Bloom's *Taxonomy of Objectives: Cognitive Domain.* The following apply to Unit Two:

"The child will say that food and candy that remain between teeth cause cavities. (collection of data)
The child will demonstrate how to avoid cavities. (collection of data)
The child will explain the causes of cavities. (understanding)
The child will say if he/she has cavities. (application)
The child will infer what causes cavities. (analysis)
The child will determine the number of cavities and prescribe ways of avoiding new cavities. (synthesis)
The child will propose a plan to avoid cavities. (evaluation)"

Second Instructional Design Construct: Contents

SCOPE: Topics are not extremely detailed but the treatment is adequate for the beginning elementary school grades. A supplement at the end of the guide contains pictures which can be used in conjunction with the different units. The eight units cover: the adequate diet (the four basic food groups, many examples of which are commonly found in the southwestern United States); dental care (how cavities are formed and how they can be prevented, names of teeth); a visit to the dentist; sleep (why sleep is necessary, how to get a good night's sleep); physical fitness (movement, parts of the body, exercise); a visit to the doctor (why doctors are needed); rest (why rest is necessary, different types of rest activity); the bath (things needed for a bath, why baths are necessary, how to bathe correctly).

SEQUENCE: Within each unit, material is arranged according to the different levels of cognition. Progression from unit to unit is based solely on content and may be presented in any order. All learners enter and exit at the same points.

Third and Fourth Instructional Design Constructs

METHODOLOGY: The teacher's guide describes necessary materials and procedures for the presentation of each lesson. New units begin with a story told by the teacher. Lessons follow which lead the child from the starting point of awareness through all levels of cognition.

Learners play an active role in manipulating, in responding, and, less frequently, in role playing. The methodology is discovery; children are put into carefully structured situations and asked to draw inferences. All visuals are provided; however, some materials must be supplied by the teacher.

MEANS OF EVALUATION: There are eight units and, correspondingly, eight evaluation segments. Activities range from identification to forming graphic representations. The developers call the evaluation construct ". . . the area where the skill to judge, according to defined criteria, the validity of an idea or concept is developed." Alternatives to be implemented in the event learners do not demonstrate mastery have not been developed.

Congruence of Four Instructional Design Constructs

SUMMARY: All four instructional design constructs are congruent.

Additional Considerations

PHYSICAL DESCRIPTION: Both the teacher's guide and the workbook are printed in black and white. Illustrations are clear. The posters were not available for analysis. The copies used for this analysis are "perfect bound" (i.e., glued rather than sewn) and tend to fall apart easily.

SOURCE: Spanish materials developed especially for ethnic-American needs. "The experiences the Mexican-American child has had in the environment in which he/she lives have been taken into account."

Overall Assessment and Recommendations

SUMMARY: Recommendation for use of this material is given by analysts. Ample activities in each unit are provided so as to assure mastery; the program is well planned, increasing gradually in complexity while supplying reinforcement; and the materials are designed especially for the needs of U.S. learners.

CDA MATH

Identification and Background

TITLE: CDA Math

AUTHOR: Robert Wirtz

PUBLISHER: Curriculum Development Associates; 1211 Connecticut Avenue, N.W.; Suite 414; Washington, D.C. 20036 (The publisher is also the distributor.)

COPYRIGHT: 1974

MEDIA: print (consumable workbooks), audiocassettes, 16mm/8mm films

COMPONENTS:

Individualized Computation, levels $A_1, A_2, B_1, B_2, C_1, C_2, D_1, D_2$*, E_1, E_2*, F_1, F_2* (core workbooks and teacher's annotated editions)
*Patterns and Problems, levels A-C, D-F** (core workbooks and teacher's annotated editions, for use with small groups of learners of mixed abilities)
My Progress Book, ABC, DEF (evaluation system for all levels of *Individualized Computation,* with teacher's annotated edition)

Curriculum Resources for Teachers:
*Drill and Practice at the Problem Solving Level*** (volumes one and two); "Drill and Practice at the Problem Solving Level" * ** (28 audiocassettes); *Toward Improving Computation** ** (workforms and teacher guide); "Toward Improving Computation"* ** (10 films); *Developing Insights into Elementary Mathematics** ** (workforms and teacher's guide); *Mathematics for Everyone** (methodological reference)

*not available in Spanish
**not available for analysis

SUBJECT AREA: mathematics

CURRICULUM ROLE: basic

GRADE LEVELS: k-6, multigraded series

POPULATION CHARACTERISTICS: Not specified.

RESEARCH AND DEVELOPMENT EVIDENCE: Results of a validation study done with 1,027 students (467 white, 443 black, 37 Spanish surname, 80 other) show 1.63 months gain in mathematics achievement for every month in school. The publisher also indicates attention is given to user feedback and may result in product revision, e.g., *Drills and Practice,* pages 76a and 76b.

LINGUISTIC CONTENT: Uses language understood by most Spanish-speakers worldwide.

LANGUAGE LEVEL: k-6, beginner/simple.

First Instructional Design Construct: Intents

DEVELOPER'S RATIONALE: *CDA Math* was designed as "... an alternative to traditional textbooks..." which teachers have been compelled to follow. The purpose is to provide materials that help students handle ideas at the manipulative level, at the representational level (using sketches, pictures, and diagrams), and, finally, at the abstract level in which symbols are used.

LEARNER GOALS: Most important are the understanding of arithmetic and the development of basic computational skills. Other goals can be inferred from author assumptions: (1) that the learner must be in the driver's seat from the very beginning; (2) that school must build pride in the learner and a positive attitude toward mathematics; (3) that developing a positive attitude can produce a substantial increase in computational proficiency; and (4) that mathematics easily transcends cultural barriers; bilingualism must be valued and cultivated in a multicultural, multiethnic society.

LEARNER OBJECTIVES: Objectives for *Individualized Computation,* listed in the teacher's editions of *My Progress Book,* are grouped at three levels: manipulative, representational, and symbolic, e.g., level E_1 : "(a) Given a sketch suggesting blocks in groups of 1000s, 100s, 10s, and 1s, the learner will report the results of adding or removing a specified number of blocks and answer related questions about less than [sic] 10,000 blocks..." Learner objectives for *Patterns and Problems* and "Drill and Practice" are to be developed by the teacher and students, based on identified competencies and student interests.

Second Instructional Design Construct: Contents

SCOPE: *Individualized Computation, levels A-F* , cover basic computational skills (including decimals and fractions) and measurement with English and metric systems. *Patterns and Problems, levels A-F,* constitute a resource of starter activities for heterogeneous groups to encourage interaction in problem-solving situations. *Drill and Practice at the Problem Solving Level* (275 pages of activities) plus 32 related audiocassettes are designed to be a flexible resource to "... individualize and personalize the curriculum for each child." The tapes are intended to help the teacher implement and vary the activities. A wealth of still more supplementary activities is available.

SEQUENCE: *Individualized Computation* follows a progression from simple to complex, based on a theoretical framework that moves from manipulative exercises through graphic representation to abstraction (working with symbols). It is highly sequenced from whole integers to simple fractions. *Levels A, B,* and *C* of *Patterns and Problems* may be used in sequence or shifted by the teacher according to small- or large-group needs; *Levels D, E,* and *F* are not available in Spanish. In the "Drill and Practice" books, sequence is left to teachers and students.

Third and Fourth Instructional Design Constructs

METHODOLOGY: The developers have gone to great lengths to describe the underlying philosophy for the development and use of the materials, based on a combined learning theory of Piaget and Bruner. (This is described in the booklet, *Mathematics for Everyone,* and in the pamphlet,"A Memo.")

A great deal of flexibility is allowed for the entry point, pacing, and selection of activities. Based on teacher judgment as to how suited a learner is to enter at a given level (which may be reinforced by testing in *My Progress Book*), the student may proceed at his or her own pace, with teacher guidance, through the *Individualized Computation* booklets. Similar opportunities exist for *Patterns and Problems,* with group activities determined by the teacher and groups of students. *Drill and Practice at the Problem Solving Level* involves group activities selected by teacher and students. The idea is to introduce activities at gradually increasing levels of complexity, short of the level of frustration that precludes learning.

The methodology is basically experimental, with opportunities for discovery and inquiry. The learning environment may be open, structured, or combined; at upper levels, an open environment is desirable. Students work in different groupings, which allows for varying types of social interaction: individually, in small groups, and in large groups, depending on learner needs and interests, and teacher discretion.

MEANS OF EVALUATION: In the *Individualized Computation* workbooks, tests are included for each sequence, usually six to 12 pages apart. Progress charts, on the inside back cover, are to be used to record the learner's achievement. Parents can be informed of progress with a letter included on the back of each test. A compilation of criteria-referenced assessments is available to the teacher in the form of "My Progress Primary" and "My Progress Intermediate," both of which can be used to help determine the entry point for each learner. The developers stress, however, that the main criterion for determining entry level is the individual student's comfortable feeling with the activities at a given level. The use of standardized tests is encouraged for measuring cognitive outcomes. Continuous teacher observation is necessary to determine whether or not students do feel mathematics is "a source of enjoyment."

Congruence of Four Instructional Design Constructs

SUMMARY: The design constructs are very congruent.

Additional Considerations

PHYSICAL DESCRIPTION: The core instructional materials in English include: *Individualized Computation:* 12 softcovered consumable workbooks, two per level (however, *levels* D_2, E_2, and F_2 are not available in Spanish); *Patterns and Problems:* six consumable workbooks, of which only the first three are available in Spanish; *My Progress Book:* evaluation materials contained in two volumes, *ABC* and *DEF.* Teacher's annotated editions are available for all aforementioned materials. The workbooks are printed on newsprint, color cartoons being used only in *Patterns and Problems.*

Curriculum resources for teachers printed in Spanish include *Drill and Practice at the Problem Solving Level* materials. Volume one is a statement of philosophy which underlies the CDA approach to elementary mathematics; volume two contains worksheets with commentary for the teacher. The accompanying 28 audiocassettes designed for staff development workshop leaders are *not* in Spanish. Other teacher resources *not* in Spanish include *Toward Improving Computation* (permission for the reproduction of this set of workforms being given to purchasers) and a guide; 10 half-hour black-and-white films, which address the teaching of elementary mathematics (available in Super 8mm and 16mm formats); *Developing Insights into Mathematics* (workforms and a teacher's guide); and *Mathematics for Everyone* (a statement of philosophy regarding elementary mathematics).

SOURCE: English language materials developed in the United States and translated into Spanish without adaptation.

TEACHER PREPARATION: The developers indicate that teachers must have the opportunity to discuss the successes and failures in approaches and they must accept the affective objectives of the program. Inservice models in California; Oregon; Jacksonville, Florida; Montgomery County, Maryland; Fairfax County, Virginia; and Charlotte-Macklenberg, North Carolina, have been developed to arrange peer-group staff development.

ACCURACY: It may be unfair carping to state that an analyst found (on page 61 of "Drill and Practice, An Alternative") 3 + 4 + 6 = 12 and (in *My Progress Book, levels D,E,* and *F)* that "subtraction" is translated as "diferencia."

Overall Assessment and Recommendations

SUMMARY: *CDA Math* is a carefully planned experimental program for elementary and intermediate students. Teacher preparation or previous familiarization with the program, agreement with the underlying philosophy, and visitations to existing users, are critical to successful implementation. The only bilingual aspect seems to be that the learner directions are translated into Spanish. But, inexplicably, not all components are translated, e.g., although the audiocassettes were found to be necessary to effective use of *Drills and Practice at the Problem Solving Level* they are not produced in Spanish as the printed materials are. One analyst does feel, however, that this is a well developed program for any group of children.

CIENCIA Y VIDA

Identification and Background

TITLE: Ciencia y Vida

AUTHORS: Eliseo Lavara Gros, et al.

PUBLISHER: Hijos de Santiago Rodríguez; Molinillo, 11; Burgos; España (distributed by Anaya-Las Americas Spanish Book Center; 152 East 23rd Street; New York, NY 10010; and by Spanish Book Corporation of America; 115 Fifth Avenue; New York, NY 10019)

COPYRIGHT: 1972-73

MEDIUM: print (textbooks and consumable workbooks)

COMPONENTS:

Libro de consulta 1, 2-6* (textbooks)
Fichas de trabajo 1-6 (workbooks)
Solucionario/ libro del maestro (teacher's answer book)

*not available for analysis

SUBJECT AREAS: natural and social science

CURRICULUM ROLE: basic

GRADE LEVELS: 1-6 (for use in Spain)

POPULATION CHARACTERISTICS: Not specified.

RESEARCH AND DEVELOPMENT EVIDENCE: None specified.

LINGUISTIC CONTENT: Uses language understood by most Spanish-speakers worldwide.

LANGUAGE LEVEL: 1-6, advanced.

First Instructional Design Construct: Intents

DEVELOPER'S RATIONALE: To prepare materials that meet Spain's EGB requirements for the elementary school level. To present comprehensive coverage, structured and sequential, of basic concepts.

LEARNER GOALS: To acquire the learning techniques and tools necessary to synthesize and relate basic ideas of the textbooks. It is implied that process – learning how to learn – and the development of a desire to learn are the most important goals.

LEARNER OBJECTIVES: Objectives are expressed in very general terms around specific content areas. They are listed before each unit. The following objectives have been selected from the third unit of book three:

"To continue our observation of the plant world, focusing attention on the process of reproduction;
To distinguish the functions of the various parts of the flower and to understand the processes of pollination and reproduction; and
To understand the importance of fruit for human consumption."

Second Instructional Design Construct: Contents

SCOPE: Textbooks are divided into two sections: eight units of natural science and eight units of social science to be covered in 32 weeks. The content coverage is broad and handled in survey fashion. Each unit contains objectives, a general orientation to the material, and periodic reviews or restatements of previously treated topics. Plant and animal life, matter, energy, and the solar system are broad topic categories for the natural science area. Social science topics treat human beings and their relationship to the environment and each other, variations in lifestyles, and the historical and geographical backgrounds of Spain. The third-level book does not demonstrate a division between the two subject areas as the other books do. All topics must be covered for a satisfactory learning experience. Supplementation is neither provided nor suggested.

SEQUENCE: It is implied that all students enter and exit at the same point and follow a linear route. The units progress in an order of increasing complexity.

Third and Fourth Instructional Design Constructs

METHODOLOGY: There is no clear indication of the teacher's role. The presentations, explanations, concepts, orientation, and objectives are contained in the student's textbooks. The worksheets have been designed as the principal instruments of student activity. According to the developers, some activities are to be carried out individually, others in small groups; however, the small-group activities appear no different from the individual activities. Matching, drawing, coloring, filling in questions, and reporting are representative of the types of activities to be completed in conjunction with the textbook.

The teaching methodology is didactic; however, some experimental activities are incorporated as well. Students are rarely involved in drawing inferences or in forming generalizations.

MEANS OF EVALUATION: There is a suggestion that learners check their own exercises. There are, however, no procedures suggested that measure achievement of the goals and objectives of the program.

Congruence of Four Instructional Design Constructs

SUMMARY: Suggested evaluative techniques are not sufficient to bring congruence to the goals and objectives of this program.

Additional Considerations

PHYSICAL DESCRIPTION: Each hardcovered textbook is accompanied by student worksheets in the form of two-hole binder fillers and a teacher's answer book. Illustrations are helpful to the textual descriptions. Important facts are highlighted and so do stand out.

SOURCE: Spanish materials developed abroad without adaptation for use in the United States.

COMMUNITY ACCEPTANCE/FAIRNESS: Sex roles are sharply defined in the illustrations; mother is depicted in the home, while father is either at work or engaged in outdoor activities. There is also a noticeable emphasis on religious topics related to the Roman Catholic church.

CURRENCY: Illustrations are current. When past events are covered, they are shown in their relationship to the present.

Overall Assessment and Recommendations

SUMMARY: An attempt is made to provide students with learning experiences that are enriching and that will motivate them to internalize basic concepts related to natural and social sciences. Yet, students complete activities without having been helped to draw inferences or to form generalizations.

The integration of the basic concepts of both social and natural science areas is effectively done. Social science concepts are presented primarily in relation to Spain and can only be adapted at the expense of lost continuity.

One analyst's recommendation is that this series can be used with any Spanish-speaking population, while another analyst, considering the difficulty of the language and the mode of presentation, suggests its use with very fluent, highly motivated learners.

CIENCIAS: ÀREAS NATURAL Y SOCIAL

Identification and Background

TITLE: Ciencias: Áreas Natural y Social

AUTHOR: Jesús Campos Delgado

PUBLISHER: Editorial Bruño; Marqués de Mondéjar, 32; Madrid – 28 (distributed by Spanish Language Multi-Media; P.O. Box 1111; Glen Rock, NJ 07452; and by Spanish Book Corporation of America; 115 Fifth Avenue; New York, NY 10019)

COPYRIGHT: 1973

MEDIUM: print (textbooks and consumable text/workbook and workbooks)

COMPONENTS:

Libro de consulta/fichas de trabajo 1 (text/workbook)
*Libro de consulta 2-5, 6-7** (textbooks)
Fichas de trabajo 2, 3-5, 6-7** (workbooks)

*not available for analysis

SUBJECT AREAS: social and natural science

CURRICULUM ROLE: basic

GRADE LEVELS: 1-7 (for use in Spain); 3-9 (as assessed by analysts for use in the United States)

POPULATION CHARACTERISTICS: Not specified.

RESEARCH AND DEVELOPMENT EVIDENCE: None specified.

LINGUISTIC CONTENT: Uses language characteristic of Spain.

LANGUAGE LEVEL: 3-9, advanced.

79

First Instructional Design Construct: Intents

DEVELOPER'S RATIONALE: (implied) To present an integrated social/natural science program.

LEARNER GOALS: (implied) To learn to observe social and natural phenomena and to relate these observations to the lives of human beings.

LEARNER OBJECTIVES: Not specified; left entirely to the user.

Second Instructional Design Construct: Contents

SCOPE: Topics recur, each time being treated in more detail. The following are the most general ones:

social science: human beings (environments, social phenomena, recreation, occupations, related geographical locations), commerce, communication systems.

natural science: animals (types, uses, environments, defenses, necessities), plants (types, uses, environments, defenses, reproduction, necessities), matter and energy, earth and space science, machines, relationships of living things.

topics related to Spain: geography, animals, plants, fish and game, agriculture, mines, provinces, population, customs, art, monuments, and government.

SEQUENCE: Judging from the content organization, one can infer that the linear route is fixed for all learners. Material becomes progressively more complex on each succeeding level.

80

Third and Fourth Instructional Design Constructs

METHODOLOGY: The developers do not discuss the nature of the teaching methodology. It is implicit, however, that some sort of presentation is to be given in conjunction with the reading of the textbook. Workbook activities follow involving content-related fill-in questions, diagrams and drawings, and explanations.

MEANS OF EVALUATION: In the levels-three and -five workbooks, there are boxes provided for self-evaluation and teacher evaluation at the end of each unit. Criteria for assessment and recommendations for the interpretation of results are not provided.

Congruence of Four Instructional Design Constructs

SUMMARY: Intents and methodology are only vaguely implied and are highly inadequate. The means of evaluation will neither signal learner difficulty nor measure learner progress.

Additional Considerations

PHYSICAL DESCRIPTION: Illustrations and photographs are of good quality. In the upper-level textbooks, there are some photographs which do not seem to be relevant to the subject matter. These instances are few and do not seriously affect the continuity of the material. All books are softcovered. Workbooks and the first-level text/workbook are consumable.

COMMUNITY ACCEPTANCE/FAIRNESS: Black persons are generally depicted as primitive, indigenous people. Women are presented as homemakers and maids, men as doctors and mechanics. The amount of material dedicated to Spain, particularly on levels three through five, would seem puzzling to students in U.S. bilingual programs.

ACCURACY: Pages 33-64 are missing from the level-two textbook provided analysts.

CURRENCY: Historical perspective in the area of social science is lacking.

Overall Assessment and Recommendations

SUMMARY: Due to the missing elements of instructional design, both teacher's and student's efforts would be taxed considerably if this program were implemented.

Since this program is unquestionably designed to be used exclusively in Spain, it does not lend itself to practical use in U.S. bilingual bicultural programs. Geographical regions and social, governmental, and commercial systems in Spain are hardly relevant to life in the United States. In order to make this material useful to U.S. learners, extensive adaptation would be mandatory. The natural science segment, however, is of more value since it is factual and not vulnerable to the idiosyncracies of different societies.

CIENCIAS: ESTUDIO DE LA NATURALEZA

Identification and Background

TITLE: Ciencias: Estudio de la Naturaleza

AUTHOR: Luis Rey

PUBLISHER: Cultural Centroamericana, S.A., de Guatemala (distributed by Lectorum Publications; 137 West 14th Street; New York, NY 10010; by Continental Book Company; 11-03 46th Avenue; Long Island City, NY 11101; and by Spanish Book Corporation of America; 115 Fifth Avenue; New York, NY 10019)

COPYRIGHT: 1971-74

MEDIUM: print (textbooks)

COMPONENTS:

Ciencias 1-6
Guía para el maestro 1-6 (guides)

SUBJECT AREA: science

CURRICULUM ROLE: basic

GRADE LEVELS: 1-6

POPULATION CHARACTERISTICS: Not stated.

RESEARCH AND DEVELOPMENT EVIDENCE: None specified.

LINGUISTIC CONTENT: Uses language understood by most Spanish-speakers worldwide.

LANGUAGE LEVEL: 1-6, advanced.

First Instructional Design Construct: Intents

DEVELOPER'S RATIONALE: To present themes and viewpoints in biological science, physical science, and earth science. This series "...is designed to meet the needs of science programs in Latin American countries."

LEARNER GOALS: No single set of learner goals is designed to encompass the entire program. Goals appear before each unit and subunit under the heading, "Objetivos Generales," in the guides, e.g., "To reaffirm and expand the learner's knowledge that plants, like animals and people, are living things."

LEARNER OBJECTIVES: The objectives are listed, as are the goals, before each unit and subunit. They appear under the heading, "Objetivos Específicos." The following is an example: "To develop a sufficient level of comprehension concerning the following ideas: 1. The earth is composed of rocks and minerals..."

Second Instructional Design Construct: Contents

SCOPE: The analysts point to matter and energy, animals and plants, and geology and astronomy as the three major areas of elementary school science treated throughout the series. One analyst characterized the content as comprehensive and detailed, while another found it to be only moderate in depth. Some minor flexibility, in the form of alternate activities for certain concepts, is evident.

SEQUENCE: The sequence is based on a progression from simple to complex concepts. The route is linear within each level. However, since each book builds upon concepts learned in previous books, the route which typifies the entire series can more comprehensively be labeled spiral. The entry and exit points appear to be fixed for all learners with no accommodations for grouping.

Third and Fourth Instructional Design Constructs

METHODOLOGY: Accompanying each unit in the teacher's guides is an introduction which provides clear, detailed user information. It consists of a list of both general and specific objectives, a list of the basic concepts, suggestions, activities, evaluation questions, and a summary of content. A didactic approach is implied, with some elements of a discovery method noticeable in books five and six. Though no specific mention of the learning environment is made by the developer, it can be inferred that there is little opportunity for active participation on the part of the learner and that most of the interaction occurs between the learner and the teacher. Special activities, listed in the guides for books five and six, provide for learner creativity.

MEANS OF EVALUATION: The author has developed questions which are presented at the end of each unit in the guides. The technical vocabulary is also listed so that it too might be used in evaluation. The questions in books one through five are fill-in-the-blank types, while the questions for the sixth book require short answers.

Congruence of Four Instructional Design Constructs

SUMMARY: The design constructs appear fairly congruent, with the exception of evaluation techniques. No suggestions for the interpretation and use of the results are indicated.

Additional Considerations

PHYSICAL DESCRIPTION: This series is composed of six student textbooks and six teacher's guides. All are softcovered, except the level-five student edition. The binding for the softcovered books is not durable. The longest book is 311 pages in length and the shortest, 154.

SOURCE: Spanish materials developed abroad without adaptation for use in the United States.

ACCURACY: A few spelling errors can be found which would not affect the effectiveness of the material, e.g., scocth [sic] tape.

Overall Assessment and Recommendations

SUMMARY: Since this series is designed to be used by Spanish-speaking learners in Latin America, the analysts emphasize that the learner must be a fluent Spanish-speaker. Students who are not literate in Spanish will have to cover the material more slowly, especially because of the technical vocabulary. The rigidity of the content and the methodology does not leave room for individual differences among learners, and the concepts presented in books three through six are more difficult than those taught in comparable U.S. grades.

CIENCIAS DE LA NATURALEZA

Identification and Background

TITLE: Ciencias de la Naturaleza

AUTHORS: Víctor M. Valecillo and Eneida R. Quesada de Walton

PUBLISHER: Ediciones Escolares "La Escuela Nueva, S.A."; Apartado 19.092; Madrid-16 (distributed by Anaya-Las Americas Spanish Book Center; 152 East 23rd Street; New York, NY 10010; and by Lectorum Publications; 137 West 14th Street; New York, NY 10011)

COPYRIGHT: 1968-73

MEDIUM: print (textbooks and consumable text/workbooks)

COMPONENTS:

Ciencias de la naturaleza 1-2 (text/workbooks)
Ciencias de la naturaleza 3, 4-6* (textbooks)

*not available for analysis

SUBJECT AREA: natural science

CURRICULUM ROLE: basic

GRADE LEVELS: 1-6 (for use in Spain); 2-7 (as assessed by analysts for use in the United States)

POPULATION CHARACTERISTICS: Not specified.

RESEARCH AND DEVELOPMENT EVIDENCE: None specified.

LINGUISTIC CONTENT: Uses language understood by most Spanish-speakers worldwide.

LANGUAGE LEVEL: 2-7, advanced.

First Instructional Design Construct: Intents

DEVELOPER'S RATIONALE: (implied) To initiate the study of natural science.

LEARNER GOALS: Learners will ". . . begin the study of nature, become interested in it, and learn to observe the things that surround them."

LEARNER OBJECTIVES: Not specified and, thus, left entirely to users.

Second Instructional Design Construct: Contents

SCOPE: Important topics are reiterated and treated in greater depth as the program progresses. They include: animals, plants (types, parts), hygiene (in the first-level book only), the human body and its systems, matter and energy, earth science.

SEQUENCE: The material increases in complexity. A linear route is implied, with fixed entry and exit points.

Third and Fourth Instructional Design Constructs

METHODOLOGY: On the first- and second-grade levels, the teacher leads the class in all learning activities, which include reading, answering content-related questions, coloring, making fill-ins (some of which are specified individual activities), and group activities, e.g., construct and take care of an aquarium.

Three groups of activities accompany each unit on levels four through six: vocabulary exercises, which involve either using words in sentences or defining them; oral or written exercises, to be done by the entire class, consisting of content-related questions; and suggested activities, which include experiments, investigations, demonstrations, discussions, and drawing.

The developers fail to discuss the methodology. As can be inferred from the materials, the methodology is didactic.

MEANS OF EVALUATION: No provision for evaluation was seen by the analysts in the materials available to them.

Congruence of Four Instructional Design Constructs

SUMMARY: Objectives of this program are not made clear to the user. A means of evaluating learner progress apparently has not been developed.

Additional Considerations

PHYSICAL DESCRIPTION: Type size in the level-one text/workbook is small. Illustrations are colorful and realistic on all levels. Books are softcovered. Only levels one and two are consumable. Materials needed for experiments and demonstrations are not supplied.

SOURCE: Spanish materials developed abroad without adaptation for use in the United States.

ACCURACY: Some minor spelling errors have been reported, e.g., page 162, book five.

Overall Assessment and Recommendations

SUMMARY: The approach to the teaching of science follows a dull pattern of reading followed by content questions and an occasional experiment. Moreover, this program lacks the most basic elements of instructional design. If selected, this material should only be used with truly fluent Spanish-speakers.

Identification and Background

TITLE: Ciencias Sociales

AUTHORS: Isidoro González Gallego et al.

PUBLISHER: Ediciones Anaya, S.A.; Salamanca: L. Braille, 4 (distributed by Anaya-Las Americas Spanish Book Center; 152 East 23rd Street; New York, NY 10010)

COPYRIGHT: 1972-74

MEDIA: print (textbooks and consumable workbooks), slides

COMPONENTS:

Libro de consulta del alumno 6-8 (textbooks)
Fichas de enseñanza individualizada 6-8 (workbooks)
Soluciones 6-8 (answer books)
Geografía de España, diapositivas * (slides)
Guía del profesor 6-8 (teacher's guides)

* not available for analysis

SUBJECT AREA: social science

CURRICULUM ROLE: basic

GRADE LEVELS: 6-8 (for use in Spain); junior high school through secondary school, in opinion of analysts

POPULATION CHARACTERISTICS: Not specified.

RESEARCH AND DEVELOPMENT EVIDENCE: None specified.

LINGUISTIC CONTENT: Uses language understood by most Spanish-speakers worldwide.

LANGUAGE LEVEL: 6-12, advanced.

91

First Instructional Design Construct: Intents

DEVELOPER'S RATIONALE: Developed to satisfy requirements of the Ministry of Education in Spain, this program has, among its characteristics, the development of the "...spirit of observation, reflection, and personal work related to an understanding of human reality..."

LEARNER GOALS: "The ability to locate facts in time and space; knowledge and utilization of techniques for the interpretation of data and documents; acquisition and expansion of sociological terminology; the ability to make value judgments of the laws and institutions that govern society; the ability to distinguish truth from untruth, and probable from improbable, in any source of information; the development of a sensitivity to time and progression; and to learn to appreciate the positive values that are familiar, as well as those of other eras and cultures."

LEARNER OBJECTIVES: Behavioral objectives are written for each unit, usually one general objective and several subsequent specific objectives. This sample general objective and two specific objectives are from level six: are from level six:

(general): "To become familiar with the evolution, natural growth, and migratory movements of the Spanish population..."

(specific): "(a) To determine why the population of our country [Spain], in spite of its rapid growth, exhibits densities smaller than those of other European countries; its causes.

(b) To point to the reasons for present concentrations of the Spanish population: economic possibilities, coastal areas..."

Second Instructional Design Construct: Contents

SCOPE: The scope is very broad and comprehensive but deep coverage is limited. The general topics are: general geography, geography of Spain, ancient and medieval Spain, universal geography, expansion of western civilization, the century of revolutions, crisis in the 20th century, and sociology of modern civilization and its historic roots. These topics are divided into subtopics and are covered once only, following a survey approach.

SEQUENCE: The developers offer two options to the teacher: (1) cover all content material so that the student will have a general view of the social sciences, or (2) cover only those topics which are signaled by student interest or which the teacher feels are necessary, concentrating more on some topics than others. For the first option, there is a suggested program schedule specifying time to be spent on each topic. It is fixed and linear. There is an allotment of time left, varying from 20 to 40 minutes, so that the teacher can judge, working in a small group, whether students need additional activities because they are having difficulty.

92

Third and Fourth Instructional Design Constructs

METHODOLOGY: Individual student activities are based on the contents of the textbooks. The principal activities involve answering questions, commenting on illustrations in the text, some experiments, making maps and graphs, critiquing reading selections, and relating concepts to personal experiences.

Large groups are recommended for motivational activities and for the presentation of information and concepts. Making maps and graphs, and searching in the textbook for answers, are suggested small-group activities. While students work in small groups, the developers suggest a short time period be set aside for the teacher to check to see if any of the learners is experiencing difficulty.

Although the guides contain fixed weekly plans, it is also explicitly stated that the teacher is to use the materials flexibly. Some additional activities to be used for enrichment purposes are outlined, such as the use of newspaper and magazine articles. All activities are teacher-initiated and most of the learner's time is spent interacting with the materials.

MEANS OF EVALUATION: At the end of five to six worksheets, there are evaluation sheets in the student workbooks. The evaluation is based on the contents of the text. There are no indications, however, as to how the results are to affect the learning process, nor have procedures been outlined to monitor learner outcomes projected in the affective area.

Congruence of Four Instructional Design Constructs

SUMMARY: Using the evaluation techniques described, one will not be able, at the end of the learning process, to say if learners have the ability to locate facts, can distinguish truth from untruth, can make value judgments, or can appreciate positive values, since students are tested only on the contents of the textbooks. In addition, the broad survey coverage would make it very difficult for students to develop the type of critical thinking necessary to the analytical processes involved in responsible judgment.

Additional Considerations

PHYSICAL DESCRIPTION: The illustrations are, for the most part, relevant to the contents and helpful to the textual explanations. All materials are softbound. The pages in the workbooks are designed to be torn out and do tend to loosen easily. Each workbook contains 108 worksheets.

SOURCE: Spanish materials developed abroad without adaptation for use in the United States.

COMMUNITY ACCEPTANCE/FAIRNESS: The materials were developed in Spain for Spanish students. Although the materials reflect an effort to be objective, Spain is clearly the focal point of the program, and topics such as migratory population movements in Spain are simply not relevant to the Spanish-speaking learner living in the United States.

ACCURACY: Since the scope is so broad, there are omissions of important details and resultant statements at times lack substantiation. For example, there is a poignant, nonetheless true, descrpition of racial problems in the United States; however, this is preceded – as if to make an unmistakable contrast – by a short paragraph which irresponsibly, yet strongly, implies racial problems in the Caribbean nations and South America are nonexistent.

CURRENCY: There is a good balance between past and contemporary societies, and attention is given to speculation about future trends.

Overall Assessment and Recommendations

SUMMARY: It would be very difficult to use these materials in the United States. The language is complex and very advanced. Spain is clearly the focal point of the program. The materials lack the most basic cultural relevance to learners in the United States except possibly for comparative value, and it is doubtful school systems can afford such a luxury.

The broad coverage and superficial treatment of the contents would necessitate a great deal of supplementation to develop meaningful insights. The rationale, goals, and objectives are not comparable with the scope or the evaluation constructs. Furthermore, the suggestion that these materials be used flexibly by the teacher seems to contradict the statement that a strict, scientific, and systematic adherence to the lesson plan be followed.

CINCEL'S INTEGRATED CURRICULUM

Identification and Background

TITLE: Cincel's Integrated Curriculum

AUTHORS: Not specified.

PUBLISHER: Editorial Cincel; Alberto Aguilera, 32; Madrid (distributed by Arhe, Inc.; 505 Fifth Avenue; New York, NY 10017)

COPYRIGHT: 1972-73

MEDIUM: print (textbooks and consumable workbooks)

COMPONENTS:

Observo y aprendo; Leo y comprendo*; El mundo y yo* (textbooks, levels 1-3)
Observo y aprendo: fichas de lenguaje (language workbook, 1)
Mi primer cuaderno de cálculo (mathematics workbook, 1)
Lengua: fichas de trabajo individualizado (language workbooks, 2,3*)
Matemática: fichas de trabajo individualizado (mathematics workbooks, 2-3)
*El libro volador; Ruta feliz; Ruta feliz II**, (readers, 1-3)
Guía del profesor (teacher's guides, 1-2, 3*)

*not available for analysis

SUBJECT AREAS: Multidisciplinary: language arts, mathematics, science, social science, creative expression

CURRICULUM ROLE: basic

GRADE LEVELS: 1-3

POPULATION CHARACTERISTICS: Not specified.

RESEARCH AND DEVELOPMENT EVIDENCE: None specified.

LINGUISTIC CONTENT: Uses language characteristic of Spain, e.g., second-person plural and some lexical items.

LANGUAGE LEVEL: 1-3, advanced.

95

First Instructional Design Construct: Intents

DEVELOPER'S RATIONALE: (implied) To provide a multidisciplinary program in accordance with Spain's General Basic Education law, i.e., ". . . to provide [subject matter with] integral formation, adapted where possible to the abilities of each student."

LEARNER GOALS: The goals adopted by the developers are those which are contained in the document, "Nueva Orientación Pedagógica." They include, in summary, the cognitive skills, relating knowledge to real-life situations, assimilation of the learner into the community and world, the ability to express oneself creatively, and the development of religious and moral standards.

LEARNER OBJECTIVES:

Language arts: "The progressive acquisition of vocabulary, its adequate use and mastery of techniques to increase it, are the most important objectives. . ." And, ". . . to multiply the abilities of comprehension and verbal expression. . ."

Mathematics: To learn the four basic mathematics concepts, viz., addition, subtraction, multiplication, and division. To learn select concepts in geometry.

Natural and social sciences: To learn about the makeup of the environment, i.e., energy, evolution, nature, seasons, etc. To learn about the makeup of humans, i.e., needs of human beings, the family, the community, the country, work and play, etc.

Creative expression: To learn the classification of forms. To learn textures. To learn to use various materials in artistic expression.

In addition, each unit is accompanied by a general objective and several specific objectives. Activities within a unit have specific objectives as well.

Second Instructional Design Construct: Contents

SCOPE: The breadth of this multidisciplinary program is overextended, the depth cursory. Five basic areas are treated: language arts, mathematics, social science, natural science, and creative expression. The language arts and mathematics segments are given more emphasis than other areas.

SEQUENCE: In the guides, the developers suggest that teachers select activities according to the needs of the learning situation. Nevertheless, a fixed linear route is implied.

96

Third and Fourth Instructional Design Constructs

METHODOLOGY: The analysts infer that the methodology is didactic. The teacher feeds all information and directions to the learners, initiates discussions, and sequences the material. There are no provisions for individualization, branching, and recycling. Interaction is limited between teacher and student. The art activities do, however, provide for individual creative expression.

The descriptions of the learning activities in the guides are not detailed; they appear in outline form and are predominantly suggestive.

MEANS OF EVALUATION: The evaluation procedure involves teacher-observation. Certain exercises ". . .will serve as a form of analysis and learning, along with the observation of habits, attitudes, and other criteria that the teacher feels valuable."

The evaluation suggestions generally appear in the guides at the end of each unit and are characteristically brief, e.g., "Within the group of children, point out a subset and the characteristic property."

Congruence of Four Instructional Design Constructs

SUMMARY: The goals are not congruent with the methodology and contents in that there are no accommodations for individual learner potentials.

The evaluation procedures suggest that the evaluation and learning processes be carried out simultaneously. This does not allow the child to internalize concepts and will probably yield information of questionable validity.

97

Additional Considerations

PHYSICAL DESCRIPTION: The books are all softbound. The worksheets are designed to be torn out and, therefore, the pages do have a tendency to loosen.

The illustrations take the form of both drawings and photographs. They are in color. Those in the mathematics workbooks are small and at times crowded In one analyst's opinion, the spaces provided for writing in the mathematics workbooks are also too small.

SOURCE: Spanish materials developed abroad without adaptation for use in the United States.

COMMUNITY ACCEPTANCE/FAIRNESS: The books are geared to the culture, language, and curricula common to Spain.

Exercises which require students to color people of different races depict very stereotyped blacks, native Americans, and Chinese people. Women are stereotypically portrayed, as well, in homemaking capacities. Religious indoctrination can be found throughout.

Overall Assessment and Recommendations

SUMMARY: Several serious drawbacks have influenced the analysts to discourage the use of this program as a basic series in bilingual programs. The cultural representations as evidenced by language characteristic of usage in Spain, the topics which include studying regions of Spain, the religious indoctrination, as well as the integrated curricular design, are foreign to the Spanish-speaking learner living in the United States. The scope is extremely broad and there are resultant gaps, especially in the mathematics and social science materials. User instructions are sketchy. There are problems with congruence among the design constructs. The first reading selection for the first grade is a paragraph containing some 34 words, much more difficult than what children in the United States are generally prepared to read at this level. Nonwhite peoples are stereotyped, e.g., blacks are portrayed carrying spears. One analyst infers that there is actually a degree of ethnocentrism functioning. The only recommendation for the use of this material is in a supplementary capacity.

99

COLECCIÓN NÚÑEZ MOLINA

Identification and Background

TITLE: Colección Núñez Molina

AUTHORS: Luis N. Núñez Molina and Gladys Paguero

PUBLISHER: Ediciones Escolares "La Escuela Nueva, S.A."; Apartado 19.092; Madrid-16 (distributed by Anaya-Las Americas Spanish Book Center; 152 East 23rd Street; New York, NY 10010)

COPYRIGHT: 1970-73

MEDIUM: print (textbooks and consumable workbooks)

COMPONENTS:

Estudios sociales de mi patria 3 (integrated geography–history–civics textbook)
Suplemento: región de Cibao (supplementary geography book; one such supplement, it is assumed, for each region in the Dominican Republic)
Historia de mi patria 4 (history textbook)
Geografía de mi patria 4 (geography textbook)
Historia de mi patria 5 (history textbook)
Regiones de la república dominicana y nociones de americana continental (geography textbook)
*America y el mundo 6** (history textbook)
Nuestro mundo 6 (geography textbook)
*Libro de trabajo 3, 4-6** (workbooks)

*not available for analysis

SUBJECT AREA: social studies

CURRICULUM ROLE: basic

GRADE LEVELS: 3-6

POPULATION CHARACTERISTICS: (implied) Learners living in the Dominican Republic.

RESEARCH AND DEVELOPMENT EVIDENCE: None specified.

LINGUISTIC CONTENT: Uses language understood by most Spanish-speakers worldwide.

LANGUAGE LEVEL: 3-6, advanced.

99

First Instructional Design Construct: Intents

DEVELOPER'S RATIONALE: (implied) To provide the children of the Dominican Republic with a social studies program.

LEARNER GOALS: (implied) To become aware of the social, historical, cultural, political, geographical, and economic backgrounds of the Dominican Republic.

LEARNER OBJECTIVES: The levels-three and -four geography books, as well as the fifth- and sixth-level history books, have listed unit objectives. The following objectives were selected from unit five, book five:

"(a) knowledge: how Trujillo came to power; suppression of liberty and works that developed during his regime; cause of his death;
(b) skills and capabilities: to come to know Trujillo's good and bad works; to compare and judge them; love of liberty and of life, which is more valuable than works of progress;
(c) activities: discussion of Trujillo's good and bad works; to write about what is discussed;
(d) attitudes: learners should feel a love for liberty and, later, for works of progress – always that the latter is not at the cost of the former; and
(e) desired habits: that the children investigate with their parents the good and bad works of Trujillo; that they judge them."

Second Instructional Design Construct: Contents

SCOPE: The content is addressed to several areas of social studies, focusing primarily on the Dominican Republic, e.g., history (formation of the Republic, national heroes, customs, civil responsibilities); natural resources and climate; geography and topology; provinces; population; industry; and commerce.

Historical material is arranged in chronological order. Via supplemental geography books, geography is handled on the local level and is expanded to include a national and, though in less depth, an international scope.

SEQUENCE: Entry and exit points are fixed. Reading material becomes increasingly more complex. Advance organizers are used.

100

Third and Fourth Instructional Design Constructs

METHODOLOGY: The methodology is didactic. Although grouping is suggested, interaction is limited to teacher and learners. No variations are suggested in the presentation and development of topics. Here is a sampling of questions to be completed after reading the texts:

"What was the first island Columbus discovered? What did he name it?"
"Using a dictionary, define the following words: cruelty, successor..."
"What animals did the Spaniards find in Santo Domingo?"
"Write on map B the dimensions of the republic."

There are occasional suggestions for reinforcement of other subject areas.

MEANS OF EVALUATION: There are no accommodations for the evaluation of learner progress.

Congruence of Four Instructional Design Constructs

SUMMARY: The authors have failed to develop a means of evaluation to measure learner progress and to assess the degree to which the intents are achieved.

Additional Considerations

PHYSICAL DESCRIPTION: The textbooks and workbooks are softcovered and laminated. They are not durable. Illustrations are colorful and attractive.

SOURCE: Spanish materials developed abroad without adaptation for use in the United States.

COMMUNITY ACCEPTANCE/FAIRNESS: The most poignant problems are found in the strong religious and nationalistic sentiments. For example, page 153, textbook three, reads: "Dominicans believe in God. We are Christians. We profess the religion founded by our Lord Jesus Christ." Also, on page 25 of the fourth-level history book, there is a picture of Spaniards, fighting the native island inhabitants, with an apparition of the Virgin Mary behind them. A question on page 91 of workbook three reads, "What should we do before going to bed and upon waking every morning so that God will protect us?" And there are many more such examples.

Overall Assessment and Recommendations

SUMMARY: "OK for supplementary use" is the strongest recommendation analysts give this program. The methodology is certainly outdated. Religious and nationalistic inculcation is persistent, making the program highly inappropriate for use in the United States. A bilingual bicultural program consisting of a high concentration of Dominican learners might, however, benefit from some facets of the program.

CONCEPTOS BÁSICOS: PROGRAMA BILINGÜE DE ENSEÑANZA PRIMARIA

Identification and Background

TITLE: Conceptos Básicos: Programa Bilingüe de Enseñanza Primaria

AUTHORS: Renée Feingold, Author, EDL
Lauren Resnick, Senior Consultant
Learning Research and Development Center

PUBLISHER: EDL; 1221 Sixth Avenue; New York, NY 10020 (The publisher is also the distributor.)

COPYRIGHT: 1971-73

MEDIA: print (readers and consumable activity books), visuals, manipulatives, and audiocassettes

COMPONENTS:

Early Reading Books A-G (set of five each)
Cartuchos de primera lectura/Early Reading Cassettes (seven audiocassettes corresponding to the *Early Reading Books*)
Poster of Zumbita la abeja/Bumble the Bee
Cuaderno de actividades/Take-home Activity Books (set of 30)
Parent Letter Duplicating Master
Geometric Shape Set
Children Card Set
Stop/Start Box
Bilingual Resource Guide

SUBJECT AREA: early childhood education

CURRICULUM ROLE: basic

GRADE LEVEL: preschool (Developers claim the program can also be used in the early primary grades.)

POPULATION CHARACTERISTICS: Not specified.

RESEARCH AND DEVELOPMENT EVIDENCE: "CONCEPTOS BÁSICOS was developed from the field-tested materials of EDL's Early Learning System."

LINGUISTIC CONTENT: Uses language understood by most Spanish-speakers worldwide. "The Spanish language used in the program is 'network' or 'neutral' Spanish. Wherever possible, in the cassettes or in print, the editors and consultants offer alternative words to reflect regional differences."

LANGUAGE LEVEL: preschool, advanced.

First Instructional Design Construct: Intents

DEVELOPER'S RATIONALE: "A basic principle of bilingual education is that young children should learn basic skills and concepts in their native language first. Once these have been acquired, the children can develop these skills and concepts in their second language, through a vocabulary already familiar to them in their native language. In this way, the second language becomes a vital, relevant learning experience, rather than a dull, isolated drill... CONCEPTOS BÁSICOS is based on the premise that teaching non-English-speaking children in their native language is not only pedagogically sound, but demonstrates a respect for the native language which is essential for a healthy self-image. Further, for English-speaking children living in our multiethnic society, learning a second language enriches their experiences and extends their understanding of their own and other people's culture."

LEARNER GOALS: "The educational goal of this program is to teach the basic skills and concepts that children need for success in the primary grades."

LEARNER OBJECTIVES: "The [performance] objectives, which are listed in Spanish and English, are stated in terms of the child's ability to perform specific tasks. The child can clearly demonstrate mastery of the task and can be evaluated realistically."

In accordance with the 54 sequences (lessons) of the program there are 54 specific objectives (in English and Spanish), of which the following are examples: "Stack, put in a line... Discriminate open/closed, in/out, inside/outside... Discriminate dark and light shades of the colors red, yellow, blue, green, orange, purple, brown... Discriminate parts of a whole... Discriminate by taste: sweet/sour, salty/bitter..."

In addition, each of the modules has a general objective, e.g., Module E: "The child will recognize sets, determine equivalence and more/less, and count sets of objects; will compare sets for greater than/less than; and will orally count objects in sets to determine more/less.

Second Instructional Design Construct: Contents

SCOPE: Developers claim that 194 basic skills and concepts of early childhood education are covered in the 54 lessons. Material is organized in seven modules: Language of Directions: Entry Skills; Language of Directions: Locational Skills; Color Discriminations; Shape Discriminations; Qualification and Set Concepts; Classification and Language; and Sensory Discriminations. All modules are treated thoroughly. Depth is left to the discretion of the user. One or all of the teaching strategies (learning activities) can be selected for use with each lesson.

SEQUENCE: "In order to relate to new concepts, children need to move from concrete to abstract experiences, with repeated exposure to a skill or concept... Concepts are developed in an order of increasing difficulty. Each lesson builds upon the learning experiences of the preceding lesson, providing

sequential review and reinforcement." Thus, the route is fixed and linear. If reteaching is necessary, developers suggest selection of a different teaching strategy (learning activity) from those provided.

Third and Fourth Instructional Design Constructs

METHODOLOGY: The teacher is to select one of the following procedures in consideration of the educational goals of the school and the language background of the learners. "*For children of Spanish-speaking background*: 1. Present everything in Modules A to G in Spanish first, and then go back and present everything in English. 2. Present each module in Spanish first and then in English. 3. Present the Teaching Strategy, or Strategies, for each sequence in Spanish first and then in English. 4. Present Module A or Modules A and B in Spanish first and then in English. Then, for the remaining modules, present the teaching Strategy, or Strategies, for each sequence in Spanish first and then in English. *For children of English-speaking background*: Follow *one* of the above suggested procedures, teaching in English first, then in Spanish."

In the *Bilingual Resource Guide*, guidlines for preparation and implementation of the program are thoroughly described. Four-to-five learners work together using the early readers and cassettes. Though printed words are found on the pages of the early readers, reading is not taught. Learners are led to realize that oral language can be represented in written form, and they are taught how to use a reader. The content of the early readers focuses on the skills and concepts of the particular module. A stop/start box, actually a switch which plugs into the wall outlet and the cassette player, is provided so that learners do not have to touch the player in order to stop the tape. Only the group leader is to operate the switch, following the directions of Zumbita la abeja, the narrator. The switch also has a red light which is lighted when the tape is playing. In this way, the teacher can tell at a glance if learners are to be listening or engaged in other activities. Teachers can use these same groups singly or in combination. One teaching strategy or early reading book/cassette is to be covered on a given day. Early reading books will take two days to complete, and time spent on each concept will depend on the teacher's selection of strategies. Used in one language on a daily basis, the program will take roughly three months to complete; used two-to-three times a week, it will take five months. Of course, a longer period of time will be needed if both languages are covered.

For each sequence (lesson) several teaching strategies – instructional activities designed to teach basic skills and concepts – are clearly and concisely described. One or more concept(s) can be selected, depending on the needs of the learners, facilities/materials available, and time. It is suggested that teachers tell learners what they are to be learning, consider new vocabulary words and variations (the Spanish words can be written in the early readers above the English equivalents), name and demonstrate the materials to be used, present the skill or concept, and choose the most effective method of grouping. Order of presentation involves completion of teaching strategies for each sequence, followed by activity sheets (one sheet for each sequence to be completed by learners at home with parents), and at the end of the module the early reading book/cassette activities.

A parent letter duplicating master (in Spanish) describes the purpose of the program and how parents can use the activities with children at home. A parent orientation meeting is suggested as well. A final section in the guide is entitled "Bilingual Resources." It contains a bibliography of background information for teachers; suggested stories for children of Mexican-American and Puerto Rican-American backgrounds; suggested books with poems, rhymes, riddles, and songs; lists of recorded games, songs, poems, and music; and suggestions for parent and community participation.

Additional Considerations

PHYSICAL DESCRIPTION: All materials for 30 learners are packaged in a sturdy, riveted cardboard case. The *Bilingual Resource Guide*, early reading books, and activity books are softbound. Early readers and manipulatives (160 geometric shapes and 64 children cards) are colorful. Audiocasettes, which are narrated on both sides in Spanish and have corresponding cassettes narrated on both sides in English, are A/E, B/F, and C/G. Module D has one side in each language. Objectives and titles of modules are the only items in Spanish in the resource guide. Spanish words, if desired, will have to be added to the early readers by the teacher, not an awesome task. Some strategies require materials not supplied.

SOURCE: Materials translated and adapted so as to be more suitable for the target population.

ACCURACY: Zumbita la abeja, the narrator of the Spanish early readers/cassettes, is a female; Bumble the Bee, the narrator of the English-only readers/cassettes, is a male. If both languages are used concurrently, children may become confused. No doubt this was done since *abeja*, the word for *bee* in Spanish, does not have a masculine form.

Overall Assessment and Recommendations

SUMMARY: The design constructs (with the exception of evaluation) reflect a remarkably high degree of congruence. The program is flexible, allowing teachers to adjust the depth of each lesson and the language of instruction to their assessment of the learners' needs. Implementation and preparation procedures are clear and useful. Parental involvement is an important part of the program and bicultural resources are suggested. Purchasers are cautioned that evaluation materials have not been included in *Conceptos Básicos* and that, in order to make the program a truly effective one, a more objective form of evaluation will have to be developed by the teacher.

MEANS OF EVALUATION: "1. Ask each child to demonstrate the specific activity he or she has been doing. Phrase your questions so that the child uses the new vocabulary words to explain the activity. 2. Based on the child's degree of mastery, decide if reteaching is necessary. Reteaching should take place as soon as possible so that the child can remain with the group. If reteaching is necessary, select another Teaching Strategy for the same objective. If the child has, by your standards, sufficiently mastered the activity, the *Hoja de actividad* should be given to signify completion of the sequence."

Congruence of Four Instructional Design Constructs

SUMMARY: In describing the objectives, the developers state "The child can clearly demonstrate mastery of the task and can be evaluated realistically." But the evaluation procedures described above lack measurable criteria. It is doubtful that "mastery of the task" will in fact be "clearly demonstrated" or "evaluated realistically" without the development of more objective assessment techniques.

DEVELOPING MATHEMATICAL PROCESSES

Identification and Background

TITLE: Developing Mathematical Processes

AUTHOR: The Wisconsin Research and Development Center for Cognitive Learning

PUBLISHER: Rand McNally and Company; 8255 Central Park Avenue; Skokie, IL 60076 (The publisher is also the distributor.)

COPYRIGHT: 1974

MEDIA: print, visuals, manipulatives, games

COMPONENTS:

Level K complete kit:
- *Physical Materials Kit A*
- *Printed Materials Kit* (for teacher)
- *Teacher Materials Kit*
- *Student Materials Kit* (consumable)

Level 1 complete kit:
- *Physical Materials Kit A* and *Kit B*
- *Printed Materials Kit* (for teacher)
- *Teacher Materials Kit*
- *Student Materials Kit* (consumable)

Level 2 complete kit* (Spanish edition scheduled to be available in late 1976.)

*not available for analysis

SUBJECT AREA: mathematics

CURRICULUM ROLE: basic

GRADE LEVELS: k-1

POPULATION CHARACTERISTICS: (implied) Spanish-speaking learners in the United States.

RESEARCH AND DEVELOPMENT EVIDENCE: Based on research into "how" children learn mathematics, the program has been tested in inner city, suburban, and small school systems throughout the nation since 1967, and revisions have been based on feedback from participating schools. (Pilot testing has been done with the English edition.)

LINGUISTIC CONTENT: Uses language understood by most Spanish-speakers worldwide.

LANGUAGE LEVEL: k-1, intermediate.

First Instructional Design Construct: Intents

DEVELOPER'S RATIONALE: "In this era of computers and complexity, it is essential that children learn how to approach and solve problems at an early age. *Developing Mathematical Processes* responds to this need by teaching children how to solve problems – how to collect data, how to find solutions, and how to validate answers... its activities are built upon what they can do and what they like to do."

LEARNER GOALS: To gain a fundamental knowledge of mathematical concepts and to begin to use mathematics as a natural means of communication. To understand that mathematics has relevance both to the learners' own environments and to their everyday lives. To learn to represent problem situations mathematically, to generate mathematical solutions, and to validate solutions with objects. To develop learner self-confidence and a feeling of success.

LEARNER OBJECTIVES: (implied *general* objectives) The child will become familiar with the properties of length, weight, numerousness, capacity, volume, area, time, and currency value. Through the processes of describing, classifying, ordering, equalizing, joining, separating, grouping, and partitioning, the child will learn to identify relationships between objects. Through the processes of representing and validating, the child will be able to go from concrete to abstract, and from abstract to concrete. *Specific* objectives stated in behavioral terms are given for each topic.

Second Instructional Design Construct: Contents

SCOPE: Major areas of concentration involve arithmetic of rational numbers (within a framework of measurement rather than set theory); geometry (an informal look at size, shape, and relationships of two- and three-dimensional objects); probability and statistics; whole numbers and place values; fractions; integers. Activities use both English and metric systems. Repeated opportunities are provided for practice in problem-solving through the exploration of attributes of real objects. All subject matter and necessary skills are presented clearly and in detailed fashion.

SEQUENCE: Topics are built around a sequence of hierarchically ordered (concrete to abstract) objectives based on a developmental view of the learning process. Entry varies; teachers use placement inventories (supplied) to determine entry points. Routes through the material also vary based on learner interest and capability. Not all activities are crucial, and not every child is expected to work on every activity, though all are expected to meet each topic at some time. Options are summarized in flow diagrams for each topic.

Third and Fourth Instructional Design Constructs

METHODOLOGY: Presenting detailed support for every phase of the planned activities, the teacher's edition delineates the behavioral objectives and describes specific procedures for assessment, daily observations, grouping, individualization, presentation of specific topics, interaction with learners, and enrichment activities.

The teacher plays a major role in the organization and management of instruction. Pacing varies among students. Attention given to differing growth patterns and learning styles makes it useful to Individually Guided Education as well as to traditional settings. Children who need to work on the same objectives are identified and placed in the same instructional group. The teacher proceeds through specified activities that will help children attain the objectives of a given topic; they are then assessed on the objectives by observation, questioning, or postassessment.

In attaining the objectives, children use various processes to state problems and to validate them, participating in a continuous concrete-abstract-concrete cycle. Activities, experiments, and manipulative materials, which form the core of the program, are combined with learning stations, stories, discussions, games, worksheets, and contests. The methodology can be didactic, discovery, inquiry, or experimental, depending on the topic; it is intended to be, primarily, the last three.

MEANS OF EVALUATION: Five ways are given to assess learners' progress: observation schedule; topic inventory; pretests; check-up tests; and placement inventories. Three levels of mastery rate the progress a student makes on each regular objective: M (mastery); P (making progress); and N (needs considerable help). "A child may go on to another topic for which an objective is a prerequisite, if he [sic] receives an M or a P on that objective. Only those children with an N rating need special help before going on."

Topic inventories which test achievement of the regular objectives are provided on duplicating masters. Pretests are available for most topics, and tests of prerequisite objectives are available for some topics. There are three kinds of pupil performance records, each with a different purpose. Teachers are encouraged to try each type and decide which is most suitable. Assessment procedures and suggestions for using groups of pretests and placement inventories are carefully outlined in the guides for each topic together with criteria for assessment of mastery level.

Congruence of Four Instructional Design Constructs

SUMMARY: There is a high degree of congruence among the design constructs.

Additional Considerations

PHYSICAL DESCRIPTION: With enough material for 32 students, DMP is packaged as follows: (1) Physical Materials Kits, with all manipulative materials, mostly plastic counters, cubes, plastic models, balances, and measuring apparati (many designed to metric specifications); (2) Printed Materials Kits, with story pictures in full color on large cards, gameboards, activity cards for student use, demonstration graph paper, crayons, and duplicating masters for preassessment tests; (3) Teacher Kits, which include the guides (in English), topic inventory duplicating masters, pupil performance records, the *Resource Manual* (in English), and the *Spanish-language Supplement* (all teacher materials in a convenient file carton); and (4) Student Materials Kits, which contain consumable student workbooks. Refill Kits contain one Student Materials Kit, one set of performance records, graph paper masters, and blank dice labels. Kits are packaged in "stackable" drawer boxes made of heavy cardboard.

SOURCE: English-language materials developed in the United States and translated and rewritten in Spanish to be more suitable for the target population.

TEACHER PREPARATION: Inservice training is offered to school districts to assure successful implementation of the program.

COMMUNITY ACCEPTANCE/FAIRNESS: Culture is not dealt with in any way due to the use of cartoon characters and imaginary events and places.

ACCURACY: Some instances of misplaced accent marks have been reported.

Overall Assessment and Recommendations

SUMMARY: The product was developed at Rand McNally through grants from the U.S. Office of Education, the National Science Foundation, and others. Extensive developmental testing allowed constant revision of the product; however, the field testing was done on the English edition only.

A new and exciting way to teach mathematics, this program should arouse learner enthusiasm and interest, and it provides for inservice teacher training. Tasks are designed in full awareness of developmental stages of children. Little reading is required on lower levels so that children may actively explore their world. Thus, a slow reader is not necessarily destined to become a slow mathematics learner. And not only are mathematics skills developed but communication skills in Spanish are greatly reinforced. Students are involved in stories, games, and problematic situations so communication among learners occurs naturally. This program is highly recommended. A system which adopts this curriculum must, however, make both a monetary and philosophical commitment to it.

DIAGONAL

Identification and Background

TITLE: Diagonal

AUTHORS: Antonio Ramos, and Gloria Roldán

PUBLISHER: Santillana, S.A.; Elfo 32; Madrid-27 (distributed by Santillana Publishing Company; 575 Lexington Avenue; New York, NY (10022)

COPYRIGHT: 1969

MEDIUM: print (consumable text/workbooks)

COMPONENTS: *Diagonal: método de dibujo y pintura 1-4*

SUBJECT AREA: art

CURRICULUM ROLE: basic

GRADE LEVELS: Not specified.

POPULATION CHARACTERISTICS: Not specified.

RESEARCH AND DEVELOPMENT EVIDENCE: None specified.

LINGUISTIC CONTENT: Uses language understood by most Spanish-speakers worldwide. Some lexical items are characteristic of use in Spain.

LANGUAGE LEVEL: 1-6, advanced.

111

First Instructional Design Construct: Intents

DEVELOPER'S RATIONALE: (implied) To give learners a step-by-step introduction and guide to drawing by familiarizing them with the many available media and equipment used.

LEARNER GOALS: (implied) Children will acquire the manipulative skills required to draw, paint, and use many other media in expressing themselves. They will also develop an appreciation for art in general.

LEARNER OBJECTIVES: These are some objectives inferred by the analysts:

- To learn to use four types of brushes;
- To practice mixing paints;
- To learn to identify the quality of painting materials;
- To practice many different ways of painting; and
- To learn to follow step-by-step instruction.

Second Instructional Design Construct: Contents

SCOPE: In addition to these topics and skills, listed below according to levels, there is a list of supplementary activities given at the end of each unit for the teacher to use as he or she sees fit.

Book one: drawing, using lines and colors, fingerpainting, working with figures and shapes, drawing people, using tempera and brush, writing and illustrating a story, and interpreting a poem in drawing.

Book two: copying, use of backgrounds, pastels, using a palette and mixing paints, and using colored pencils.

Book three: identifying quality of painting materials, copying from photographs, mixing colors, painting described scenes, using different types of brushes, drawing with charcoal, and drawing with felt-tip pens.

Book four: working with tempera, India ink, mixing colors, interpreting paintings and photographs, and studying paintings by famous painters.

SEQUENCE: Development of muscular coordination, motor skills, and the interest level of elementary school children seems to have been carefully considered. Order is based on increasing complexity. Each unit follows a spiral pattern, building gradually an acquired skill. The route is linear and the entry and exit points are the same for all learners.

112

Third and Fourth Instructional Design Constructs

METHODOLOGY: Even though there is no apparent discussion of methodology, several characteristics can be readily inferred. The material is tightly organized. Students meet the material at the same time and work toward the same objectives, following step-by-step instructions. However, because learners are given opportunities to express themselves any way they would like, responses therefore are variable. The learner's role is quite active and the method used by the developers is at least in part didactic and in part experimental, and even shows some traces of inquiry. While the child works on the development of his/her own creative expression he or she is given an awareness of some of Spain's masterworks of art. It is hoped children will develop an aesthetic appreciation.

MEANS OF EVALUATION: There are no specified techniques to be used in evaluation.

Congruence of Four Instructional Design Constructs

SUMMARY: Because there is no means of evaluation described in the materials analyzed, teachers will have no way of determining if learners are achieving the objectives and, in turn, the goals. But more important, it will not be possible to identify accurately what, if any, changes in the learning process should be effected.

Additional Considerations

PHYSICAL DESCRIPTION: The four books are hardbound and consumable. They serve as both textbooks and workbooks. Approximately 30 per cent of the pages have an explicative text. The illustrations are colorful and helpful to the explanations. All materials, with the exception of the paper supplied in the workbooks, must be supplied by the user.

SOURCE: Spanish materials developed abroad without adaptation for use in the United States.

COMMUNITY ACCEPTANCE/FAIRNESS: There are no black children depicted in the photographs. Cultural orientation – e.g., representative artists and museums – pertains only to Spain.

Overall Assessment and Recommendations

SUMMARY: Careful pacing is evident in the presentation of skills, concepts, and techniques related to painting and drawing. The extensive breadth and depth of the material provide the student with a thorough introduction to these two areas of art education. Once basic vocabulary items are understood, this program will be of value in the bilingual classroom. Simple and clear procedures will allow the nonspecialist to use these materials effectively.

EDUCACIÓN GENERAL BÁSICA (EDITORIAL BRUÑO)

Identification and Background

TITLE: Educación General Básica (Editorial Bruño)

AUTHORS: Emilia López, et al.

PUBLISHER: Editorial Bruño; Marqués de Mondéjar, 32; Madrid – 28 (distributed by Anaya-Las Americas Spanish Book Center; 152 East 23rd Street; New York, NY 10010)

COPYRIGHT: 1971-72

MEDIUM: print (consumable text/workbooks)

COMPONENTS:

Velero: bloque trabajo personalizado 1-2, 3* (level-1 workbooks)
Velero: guía del profesor (teacher's guide)
Carbela: bloque trabajo personalizado 1-2, 3* (level-2 workbooks)
Carbela: guía del profesor (teacher's guide)
Bergantín: bloque de trabajo personalizado 1, 2, 3** (level-3 workbooks)
Bergantín: guía del profesor (teacher's guide)
*Bajel: bloque de trabajo personalizado 1, 2-3** (level-4 workbooks)
Bajel: guía del profesor (teacher's guide)
*Galera: bloque de trabajo personalizado 1, 2-3** (level-5 workbooks)
Galera: guía del profesor (teacher's guide)

*not available for analysis

SUBJECT AREA: multidisciplinary: social studies, science, mathematics, language arts, religion, art

CURRICULUM ROLE: basic

GRADE LEVELS: 1-5

POPULATION CHARACTERISTICS: Not specified.

RESEARCH AND DEVELOPMENT EVIDENCE: None specified.

LINGUISTIC CONTENT: Uses language understood by most Spanish-speakers worldwide. Language is characteristic of use in Spain.

LANGUAGE LEVEL: 1-5, advanced.

First Instructional Design Construct: Intents

DEVELOPER'S RATIONALE: To comply with Spain's General Basic Education law, i.e., to provide subject matter with integral formation, fundamentally equal for everyone, and adjustable to the maximum extent to each learner's attitudes and capabilities.

LEARNER GOALS: Goals are differentiated from one another and stated in the introduction to each teacher's guide. Three general goals are stated: (1) to provide learners with a balanced background; (2) to enrich the learners' lives by developing all of their capabilities, and (3) to encourage individualized instruction and to utilize self-pacing, with the aim of preparing students to become part of society. It is also stated "...we do not intend, as a principal end, the acquisition of knowledge, but to develop a *desire to learn more*, to teach the student to learn...to continually question the reality that surrounds one."

LEARNER OBJECTIVES: Objectives are clearly stated for each biweekly unit according to subject area. Examples: (1) to discover the interrelationships which exist among all Spaniards; (2) to observe variation in nature; and (3) to develop the capacity to express ideas using correct sentences.

Second Instructional Design Construct: Contents

SCOPE: This series treats every area of the Spanish curriculum, from first to fifth grade, covering social and natural science, language arts, mathematics, plastic and dynamic expression, and religious and moral indoctrination. Overall content coverage is broad and considerably detailed for the intended grade levels. Although the program is intended for individualized instruction, each student is presented with the same material.

SEQUENCE: The sequence is based on a developmental view of the learning process. The entry and exit points seem to be the same for all learners, since no instructions are given to accommodate varied abilities, interests, or preferences. The teacher follows the progression along with the learners. Systematic branching and recycling are not provided; however, there are optional recycling, branching, and reinforcement activities. Open-ended generalizations are utilized.

Third and Fourth Instructional Design Constructs	Additional Considerations
METHODOLOGY: A method called *sistema individualizado* is described by the developer... It demands, in part, autocracy and knowledge of each student's abilities. Using this approach, in which learners work silently, the teacher will not tire as easily, and, say the developers, "There will be days when you will hardly pronounce a single word." Teachers are afforded additional time in which to prepare future classwork. Learners interact with the materials almost exclusively. They are encouraged to consult the teacher, the classroom library, or a classmate if problems arise. **MEANS OF EVALUATION:** Self-evaluation materials are incorporated at the end of each unit in the workbooks. Only the language arts and mathematics subject areas are evaluated. Students are to record test results on record-keeping sheets, but they have no criteria to help them to interpret results nor are they given the answers. One analyst's reaction suggests these materials are nothing more than additional activities.	**PHYSICAL DESCRIPTION:** The workbook bindings are not durable, because pages are designed to be torn out. All books are softcovered. The prose style is loaded with technical vocabulary and with words unfamiliar to learners at the intended grade levels. The type size in the first-level books is rather small. **SOURCE:** Spanish materials developed abroad without adaptation for use in the United States. **COMMUNITY ACCEPTANCE/FAIRNESS:** A general cultural relevance to Spain prevails as evidenced by references to the geographical study of Spain and to Spanish government figures. The religious content is implicit throughout the materials and also appears in catechism form as one of the subject areas.
Congruence of Four Instructional Design Constructs	**Overall Assessment and Recommendations**
SUMMARY: There seems to be a large discrepancy between the overall objectives, which point to the importance of individualized learner needs, and the high degree of control which the teacher and the method impose upon the students, in terms of schedule and available content for a given biweekly unit.	**SUMMARY:** This series is not suitable for use in the United States. The target population is definitely Spanish-speaking pupils living in Spain, not Hispanic children living in the United States. Language and content are too advanced for the intended grade levels, religious and moral indoctrination is objectionable, and there are no cultural ties between the children in American bilingual programs and the representations in the material.

ENSEÑANZA PROGRAMADA E.G.B. (mathematics)

Identification and Background

TITLE: Enseñanza Programada E.G.B. (mathematics)

AUTHOR: Not specified.

PUBLISHER: Santillana, S.A.; Elfo, 32; Madrid – 27 (distributed by Santillana Publishing Company; 575 Lexington Avenue; New York, NY 10022)

COPYRIGHT: 1974

MEDIUM: print (consumable text/workbooks)

COMPONENTS:

Módulo 41: lógica, aplicaciones y relaciones
Módulo 43: números racionales positivos

NOTE: There are in all probability many more modules.

SUBJECT AREA: mathematics

CURRICULUM ROLE: basic

POPULATION CHARACTERISTICS: Not specified.

RESEARCH AND DEVELOPMENT EVIDENCE: None specified.

LINGUISTIC CONTENT: Uses language understood by most Spanish-speakers worldwide.

LANGUAGE LEVEL: 9-12, advanced.

First Instructional Design Construct: Intents

DEVELOPER'S RATIONALE: (implied) To present a program which is designed to make allowances for individual learner differences and to be used without constant teacher assistance.

LEARNER GOALS: (implied) To teach the student to learn independently, utilizing programed instruction. To convey the "new logic" in a way that assures the learner's understanding. And, to learn operations using rational numbers.

LEARNER OBJECTIVES: The objectives are designed to inform the student what he/she will learn and be able to do after completing each workbook unit. The following example was selected from Module 41, unit four:

"After finishing these exercises, you will be able:

- to distinguish the relationship that exists between intersection and conjunction
- to define a set intersection according to its properties."

Second Instructional Design Construct: Contents

SCOPE: Topics are treated fairly comprehensively and in detail. Module 41: types of propositions, value of propositions, sets and set theory, implications and double implications, relationships, and classification. Module 43: rational numbers (properties and computational skills), fractions and decimals (and computational skills). Topics are at times repeated.

SEQUENCE: As in all programed instruction materials, sequence is basic to success. The learner may not proceed to the next exercise until he/she has completed the previous one correctly. There are no accommodations for recycling, however. The sequence is linear, and learners are to work at their own individual rates. A unit should be completed in one day, according to the developers.

Third and Fourth Instructional Design Constructs

METHODOLOGY: In programed instruction, students progress through small steps at their own individual speeds and may not proceed until they have answered the previous exercise correctly. Answers appear on the page which follows the question page and are to be checked by the learners.

Book zero describes how the material is to be used. The directions are clear and designed so that learners can read and understand them without assistance. The exercises vary in style: fill-in; multiple-choice; rearranging; etc. Previous material is continuously reviewed to assure that learners have mastered important concepts.

One analyst reports that the "new math" concept of teaching mathematics is not used in these materials.

MEANS OF EVALUATION: At the end of each booklet, there is a test which measures mastery of the concepts. Students again check their own responses. After they complete the entire module, they work a final evaluation unit.

Congruance of Four Instructional Design Constructs

SUMMARY: All design constructs appear to be congruent.

Additional Considerations

PHYSICAL DESCRIPTION: Each consumable booklet is a complete entity. Each module has an average of ten units, packaged in cardboard folders.

SOURCE: Spanish materials developed abroad without adaptation for use in the United States.

Overall Assessment and Recommendations

SUMMARY: Because of the need of students in the United States to be able to perform tasks, study individually, and follow instructions, this program surpasses its fundamental goal of teaching logic and operations with rational numbers.

The presentation of instructions for use conveys to the learner a clear explanation of the principles of programed instruction. Answers are easily accessible, and it is imperative the learners be honest with themselves in order to preserve the effectiveness of the materials, although there are research data that suggest that even students who "cheat" do learn.

One reaction to the contents is that the language may be too difficult. Another is that the teaching of operations without the rationale behind them is emphasized, and this is undesirable. There is also a great deal of work in each unit to be covered in one day, as the developers suggest; it will undoubtedly take longer for most students.

GAVIOTA

Identification and Background

TITLE: Gaviota

AUTHORS: Carmen Ubierna et al.

PUBLISHER: Santillana, S.A., Elfo 32; Madrid-27 (distributed by Santillana Publishing Company; 575 Lexington Avenue; New York, NY 10022)

COPYRIGHT: 1967-69

MEDIUM: print (consumable workbooks)

COMPONENTS:
Gaviota: actividades manuales y artísticas 1-4

SUBJECT AREA: art

CURRICULUM ROLE: basic

GRADE LEVELS: Not specified.

POPULATION CHARACTERISTICS: Not specified.

RESEARCH AND DEVELOPMENT EVIDENCE: None specified.

LINGUISTIC CONTENT: Uses language understood by most Spanish-speakers worldwide. Some lexical items are used only in Spain.

LANGUAGE LEVEL: 1-4, beginner/simple.

123

First Instructional Design Construct: Intents

DEVELOPER'S RATIONALE: (implied) To provide teachers and children with aesthetic experiences using a variety of media.

LEARNER GOALS: (implied)
(1) To develop self-expression;
(2) To learn to follow instructions; and
(3) To learn to use arts and crafts materials.

LEARNER OBJECTIVES: (implied) To make use of many different art media in directed activities.

Second Instructional Design Construct: Contents

SCOPE: Each book consists of 30 lessons, covering:
book one: pasting, cutting, paper projects, painting, making decorations, constructing toys, coloring, tracing, and using modeling clay.

book two: using scissors, water colors, paints, making paper flowers and toys, and using scrap materials in art activities.

book three: construction of paper fans, mosaics, cloth dolls, candles, playthings, mobiles, and using scrap materials in art activities.

book four: advanced construction, e.g., making puppets, kites, toys, presents, decorations, wooden objects, plaster of Paris molds, dolls, eyeglass cases, paper castles, and flowers.

SEQUENCE: The material is arranged in a progression from simple to complex. Although the developers do not comment on sequence, it would not be advisable to use the books randomly since the learner's ability to complete tasks is in part dependent on the developmental stages of muscular coordination. Flexibility within a certain level is a possible option. Other considerations appear to be left to the user.

124

Third and Fourth Instructional Design Constructs

METHODOLOGY: The method used is didactic; however, there is ample opportunity for learners to express themselves. Some directions are fixed, e.g., "Paste different colored paper on a contrasting single-colored cardboard"; others allow for a more open interpretation, e.g., "Cut the cardboard the way you like." Illustrations accompany each direction.

The developers fail to discuss the use of these materials, and it must be assumed that grouping, individualized instruction, and the like are left to the user's discretion.

MEANS OF EVALUATION: Evaluation is left entirely to the user.

Congruence of Four Instructional Design Constructs

SUMMARY: Evaluation is ignored. The other three constructs, as inferred from the materials, appear to be congruent.

Additional Considerations

PHYSICAL DESCRIPTION: This series consists of four softcovered nonconsumable student books. The materials which are to be used in the activities must be supplied by the user.

SOURCE: Spanish materials developed abroad without adaptation for use in the United States.

Overall Assessment and Recommendations

SUMMARY: One analyst comments that this material is unsuitable for use in the bilingual classroom. In order to follow the instructions, a thorough knowledge of reading and an extensive familiarity with related vocabulary are required. Otherwise, explanations from the teacher are necessary. Perhaps use of the series could begin in second or third grade. On the other hand, these books are excellent resource materials for the development of manual skills.

MAÑANA

Identification and Background

TITLE: Mañana

AUTHORS: Emiliano Martínez (director) et al.

PUBLISHER: Santillana, S.A.; Elfo, 32; Madrid – 27 (distributed by Santillana Publishing Company; 575 Lexington Avenue; New York, NY 10022)

COPYRIGHT: 1968-70

MEDIUM: print (textbooks and consumable workbooks)

COMPONENTS:

Libro activo de cálculo 1,2, 3*, 4-6* (textbooks)
*Cuaderno de cálculo primer curso** (workbook)
Cuaderno de cálculo segundo curso 1-2 (workbooks)
Cuaderno de cálculo tercer curso 1-2 (workbooks)
Cuaderno de cálculo cuarto curso 1-2 (workbooks)
Cuaderno de cálculo quinto curso 1-2 (workbooks)
*Cuaderno de cálculo sexto curso 1-2** (workbooks)

*not available for analysis

SUBJECT AREA: mathematics

CURRICULUM ROLE: basic

GRADE LEVELS: 1-6 (for use in Spain)

POPULATION CHARACTERISTICS: Not specified.

RESEARCH AND DEVELOPMENT EVIDENCE: None specified.

LINGUISTIC CONTENT: Uses language understood by most Spanish-speakers worldwide.

LANGUAGE LEVEL: 1-6, advanced.

127

First Instructional Design Construct: Intents

DEVELOPER'S RATIONALE: (implied) To teach students the basic mathematical concepts and how to use them.

LEARNER GOALS: (implied) Mastery of the mathematical concepts and computational skills which are covered.

LEARNER OBJECTIVES: Left entirely to the user.

Second Instructional Design Construct: Contents

SCOPE: The scope of the contents is comprehensive. Emphasis is placed on theory and on rules, the development of which is limited to examples and practice. All areas receive rather cursory treatment. The content is organized as follows: vocabulary and mathematical symbols; computational skills; sets and subsets; geometry (lines, segments, polygons); fractions (and computational skills); decimals (and computational skills); measure (metric system and perimeter, area, volume); per cent; symmetry and proportion; and numerical scales.

SEQUENCE: The sequence is fixed and linear, organized from simple to complex. All learners enter and exit at the same points.

123

Third and Fourth Instructional Design Constructs	Additional Considerations
METHODOLOGY: The implied teaching methodology is didactic. Pacing is determined by the materials and is the same for all learners. Concepts are reinforced through workbook exercises and occasional review sheets. Student participation is generally restricted to responding to these workbook/review exercises. The matter of individual learner differences is not given consideration. **MEANS OF EVALUATION:** Review worksheets, which appear after approximately 15 units, are vaguely reminiscent of evaluation materials; however, they are very brief and do not give attention to all concepts covered.	**PHYSICAL DESCRIPTION:** Textbooks and workbooks alike are softcovered. Important concepts and vocabulary are highlighted. Illustrations are clear and helpful. **SOURCE:** Spanish materials developed abroad without adaptation for use in the United States. **COMMUNITY ACCEPTANCE/FAIRNESS:** Problems dealing with money are based on Spanish currency. Likewise, measure is based exclusively on metric units. And, word problems and many examples which illustrate rules relate to Spanish crops, products, cities, and the like.
Congruence of Four Instructional Design Constructs	**Overall Assessment and Recommendations**
SUMMARY: Unity of purpose is not made clear to the user and accommodations for the measurement of learner progress are not provided.	**SUMMARY:** The instructional design of the program is, at best, tenuous, at worst, deficient. The sparse review activities and lack of an evaluation construct do not assure mastery of concepts. It would be very difficult for the teacher to discover why students may have fallen behind and even more difficult to help them catch up. Pacing is quick, explanations need to be stated with more clarity and detail, and some of the vocabulary may not be familiar to the Spanish-speaker living in the United States. The vocabulary, however, is not a serious problem. Notwithstanding all this, analysts feel that this program could be used in the United States, provided the teacher is extremely well trained in mathematics. The series should be used above the intended grade levels, and some form of supplementation should be devised.

MATEMÁTICA

Identification and Background

TITLE: Matemática

AUTHORS: Gonzalo G. Decal et al.

PUBLISHER: Hijos de Santiago Rodríguez; Molinillo, 11-15; Burgos, España (distributed by Anaya-Las Americas Spanish Book Center; 152 East 23rd Street; New York, NY 10010; and by Spanish Book Corporation of America; 115 Fifth Avenue; New York, NY 10019)

COPYRIGHT: 1972-74

MEDIUM: print (textbooks and consumable workbooks)

COMPONENTS:

Matemática: libro de consulta 1-5, 6, 7* (textbooks)
Fichas de trabajo 1-7
Solucionario/libro del maestro 1-7 (answer book/teacher's edition)

*not available for analysis

SUBJECT AREA: mathematics

CURRICULUM ROLE: basic

GRADE LEVELS: 1-7 (for use in Spain)

POPULATION CHARACTERISTICS: Not specified.

RESEARCH AND DEVELOPMENT EVIDENCE: None specified.

LINGUISTIC CONTENT: Uses language understood by most Spanish-speakers worldwide.

LANGUAGE LEVEL: 1-7, advanced.

131

First Instructional Design Construct: Intents

DEVELOPER'S RATIONALE: (implied) The presentation of an elementary mathematics program.

LEARNER GOALS: Only one level—level three—seems to imply any goals: to develop an understanding of the world and its relationships; to develop the ability to create mental structures and the acquisition of mechanisms necessary for reasoning and expression; to develop a desire to study the science of mathematics.

LEARNER OBJECTIVES: Left entirely to the user.

Second Instructional Design Construct: Contents

SCOPE: The material is covered very quickly. Major topics and skills include sets, addition, subtraction, multiplication, division, decimals, Roman numerals, measure (metric system only), time, fractions, geometry, money, statistics, different number bases, rational and irrational numbers, and natural numbers.

SEQUENCE: The units are arranged in an order of increasing difficulty and complexity. It can be inferred that all students are expected to follow a linear route, with fixed entry and exit points.

132

Third and Fourth Instructional Design Constructs

METHODOLOGY: In the materials available for analysis, the authors present neither a discussion of the methodology nor directions for use. It can nevertheless be inferred that the methodology is didactic and geared to teacher-learner interaction. The learner's role seems to be rather passive, and all learners appear to progress at the same rate. Though the methodology is didactic and traditional, the concepts are characteristic of the "new math" approaches.

MEANS OF EVALUATION: The developers have not made provisions for evaluating learner progress.

Congruence of Four Instructional Design Constructs

SUMMARY: Problems in congruence stem from the authors' failure to state the intents of the program, to elaborate on how the materials can most profitably be used, and, finally, to supply a means of assessing the extent of any learner growth.

Additional Considerations

PHYSICAL DESCRIPTION: Textbook levels one through five are hardcovered. Level seven is softcovered, as are the teacher's answer books/manuals. The worksheets are consumable in the form of two-hole binder fillers. Some of the pages appear to be slightly crowded. Illustrations are attractive and colorful.

SOURCE: Spanish materials developed abroad without adaptation for use in the United States.

COMMUNITY ACCEPTANCE/FAIRNESS: The cultural depictions are representative of Spain, e.g., Spain's monetary system, the map of Spain, the Spanish flag, and the exclusive use of the metric system.

Only white children are depicted in the illustrations.

ACCURACY: Cultural differences account for variations with United States conventions: Commas indicate decimal places; an inverted division sign is used; and periods separate place values.

Overall Assessment and Recommendations

SUMMARY: The foremost concern of the analysts revolves around the lack of direction given the teacher in terms of intents and use of materials. The *Solucionarios/libros del maestro* are merely teacher's editions of the workbooks, i.e., essentially answer keys. Even such directions as when the worksheets are to be used, a most basic consideration, are not stated.

In addition, this series attempts to cover a vast number of concepts in a relatively short period of time, resulting in a cursory treatment.

MATEMÁTICA DE SILVER BURDETT

Identification and Background

TITLE: Matemática de Silver Burdett

AUTHORS: John F. LeBlanc et al.

PUBLISHER: Silver Burdett Company; 250 James Street; Morristown, NJ 07960 (The publisher is also the distributor.)

COPYRIGHT: 1973

MEDIUM: print (textbooks, consumable text/workbooks)

COMPONENTS:
Matemática 1-2 (text/workbooks)
Matemática 3-6 (textbooks)

SUBJECT AREA: mathematics

CURRICULUM ROLE: basic

GRADE LEVELS: 1-6

POPULATION CHARACTERISTICS: Not specified.

RESEARCH AND DEVELOPMENT EVIDENCE: The developers state, in the teacher's guides to the English-language edition: "The choice of the content was not arbitrary, nor was it a subject of whim or individual preference. Instead, whenever possible, topics included were substantiated by research and classroom trial... the problem-solving techniques developed and used by the students throughout the Silver Burdett Math System have been found, through experiment and field trial, to be unusually successful in developing problem-solving power among students of all ability levels." No additional information or empirical data are provided to substantiate these statements.

LINGUISTIC CONTENT: Uses language understood by most Spanish-speakers worldwide.

LANGUAGE LEVEL: 1-6, advanced.

First Instructional Design Construct: Intents

DEVELOPER'S RATIONALE: *Matemática de Silver Burdett* is predicated on structuring mathematics into sequentially arranged performance-based objectives. As a learner-oriented program, it is ". . . designed to bring excitement, motivation, and ease to the learning of mathematics."

LEARNER GOALS: "To provide a series of carefully sequenced mathematical experiences and activities in a variety of instructional settings, and to do so in such a way that the inherent difficulties of teaching and learning mathematics are substantially reduced; to motivate young people to the serious study of mathematics by creating an environment in which mathematics is seen as interesting, challenging, surmountable, and simply fun to do."

LEARNER OBJECTIVES: Numerous performance objectives developed for each of the six learning strands on each grade level are listed in the front of each teacher's edition. The strands are: sets, numbers, and motivation; operations and properties; sentences and problem-solving; geometry and measurement; relations and functions; and probability, statistics, and graphing.

Also in the guides are chapter as well as lesson objectives, e.g., "In order to better understand combinations, students must know the relationship that exists between sum and difference." Lesson objectives are also defined in more simple terms for learners, e.g., the above objective in the student's edition: "To write sentences of sum and difference that have the same three numerals."

Second Instructional Design Construct: Contents

SCOPE: The basal course covers skills and concepts in each of the six learning strands. Topics in the first three strands constitute a minimum course. The average student can move on with the next two strands; for more advanced students, some, or even all, topics from the sixth strand are recommended. The overall content coverage can be described as broad in areas and topics, cursory in treatment. Skills introduced in one level are not usually repeated in that level, and the same skills are not reinforced consistently in subsequent levels. Supplementary materials available from the producer, or the entire "System" as it is called, deepen and broaden the scope of the course considerably. However, the System components are not available in Spanish, nor are the nine kindergarten workbooks.

SEQUENCE: The developer recommends a step-by-step sequencing of topics within chapters for each grade. Order is based on movement from concrete to abstract, on increasing complexity or difficulty, on a breaking down of complex ideas into their component parts, and on a spiral approach to the strands. All learners start at the same point in the course each year, but routes differ depending upon type of course (minimum, average, maximum), which, in turn, depends on students' interests and performance on preceding tasks (based on observation and evaluation).

Third and Fourth Instructional Design Constructs

METHODOLOGY: In the front of the teacher's guides, the developers present the philosophy of the program and an explanation of its approach to mathematics learning. They explain there is a need to relate mathematics to the real world and have therefore developed what is called the "laboratory strategy". "The laboratory strategy does not depend on the physical setting or even on the materials used in the classroom. Essentially, it is an attitude that a teacher uses in teaching mathematics." Students learn to think about numerical examples in real-world settings; to interpret a mathematics example back into real-world strategy; to solve problems successfully; to perform fundamental operations and processes of arithmetic effectively; to understand the rationale for these operations and processes; and to experience immediate success in mathematics early in the school years and, in turn, to be motivated to a serious study of mathematics.

Detailed, useful, and fairly clear teaching and assessment suggestions for the course, the unit, and the lesson are given. The teacher places students in the basal textbooks after grouping them into three groups according to ability. Fast learners spend less time per lesson than average or slow learners. The teacher explains lessons, using the chalkboard and other displays, and the group works through a few problems together. The teacher checks each answer, then assigns independent work. Learners take the test at the end of the chapter entitled "¿Cómo vas?" (How are You Doing?). For extra practice on missed items, students can do items in the "Práctica" (Extra Practice) section, or, for faster learners, the "Trata algo más difícil" (Try Something Harder) section. Students maintain skills by completing activities labeled "Repaso" (Brush-ups). Problem-solving steps for all levels include: (1) telling; (2) showing; (3) solving; (4) answering.

MEANS OF EVALUATION: A pretest or diagnostic test is located in each chapter "overview" along with a listing of requisite knowledge and skills. At the end of each chapter the "¿Cómo vas?" test is to be administered to check mastery. These tests cover the performance objectives covered in the chapter. In addition, key exercises are signaled so that the teacher can check learner progress after each lesson.

Congruence of Four Instructional Design Constructs

SUMMARY: The design constructs fit together well.

Additional Considerations

PHYSICAL DESCRIPTION: Student editions, levels three through six, are hardbound with strong bindings and attractive covers. Levels one and two are softcovered and consumable. Cartoon characters are used throughout; one character is depicted through an entire level. Illustrations are of good quality, but the page layout can be described as busy.

Many additional components – including materials for kindergarten and grades seven and eight, a classroom management system and guide, skills practice pads, skills practice books, skill banks, achievement tests, spirit masters, math kits, lab cards, skill games, metric skills spirit masters, mathematics films, and monitor system – greatly enhance the basal program but are available in English only.

SOURCE: Materials translated from English to Spanish with little adaptation.

Overall Assessment and Recommendations

SUMMARY: A variety of topics is introduced (e.g., flow charts and computers) but there is little follow-up. Concepts are not well developed; usually an example is shown and students are to do a number of examples of the same type. Analysts agree there is sufficient practice within the chapters, but insufficient review and skill maintenance both between chapters and between levels. Analysts also feel the developers have used the term "laboratory strategy" a little too loosely in describing their methodology.

Matemática de Silver Burdett can be used successfully in bilingual bicultural programs in the United States. Despite the weaknesses mentioned, it contains all elements of instructional design, the translation is more than adequate, provisions are made for grouping, and in its approach it is obviously comparable to mathematics programs used throughout the United States. Only the basal materials were translated, and it is unfortunate that the producers did not consider at least the achievement tests and readiness materials as part of the core program for Spanish-speaking learners.

MATEMÁTICA MODERNA

Identification and Background

TITLE: Matemática Moderna

AUTHOR: Albert E. Filano

PUBLISHER: The Continental Press, Inc.; Elizabethtown, PA 17022 (The publisher is also the distributor.)

COPYRIGHT: 1973 (based on *Modern Mathematics*, 1966)

MEDIUM: print (preprinted master carbon units)

COMPONENTS:

Kindergarten 1-3
Grado 1 1-4
Grado 2 1-4

SUBJECT AREA: mathematics

CURRICULUM ROLE: basic

GRADE LEVELS: k-2

POPULATION CHARACTERISTICS: Not specified.

RESEARCH AND DEVELOPMENT EVIDENCE: None specified.

LINGUISTIC CONTENT: Uses language understood by most Spanish-speakers worldwide.

LANGUAGE LEVEL: k-2, beginner/ simple.

First Instructional Design Construct: Intents

DEVELOPER'S RATIONALE: According to the developer, this program is designed"... to help the pupil achieve the objectives of the new mathematics."

LEARNER GOALS: Goals and objectives, as well as the entire text of the teacher's guide, are presented in both Spanish and English. The six goals presented in the guide are identical for each level. For example: "To develop computational skills to the greatest possible extent... To develop an understanding of the logical structure of mathematics, the patterns and relationships which give unity to the subject... To develop a positive attitude toward learning mathematics; to make mathematics interesting and exciting."

LEARNER OBJECTIVES: Each page in all the workbooks is accompanied by one or more specific objectives listed in the teacher's guide. For example: "To develop competency in adding and subtracting two place numbers... To provide practice in writing numerals 1 through 5."

Second Instructional Design Construct: Contents

SCOPE: Each topic is covered in depth. The kindergarten-level books address themselves to sets and numerals 0-10, natural order, geometric shapes, problem stories, and number of equivalent and nonequivalent sets, to name a few. Grade one expands the basic concepts and adds the fractions 1/2, 1/3, 1/4, money differences, measure, the calendar, equations, counting 0 to 99 and skip counting, addition and subtraction on the number line, and inverse ordering. The grade-two books again expand previously studied topics, and, while exercising some of the same skills, treat number patterns and missing factors, inequalities, and regrouping, and introduce division.

SEQUENCE: The author explicitly states that the worksheets are designed to lead the pupil gradually to the desired concept in a sequential manner, as evidenced in the outline of contents. Subsequently, the route is fixed and linear for all students. Though recycling is not supplied to allow for individual student differences, reintroduction of concepts is evident.

Third and Fourth Instructional Design Constructs	Additional Considerations
METHODOLOGY: Incorporated in the teacher's guide are both general directions and highly descriptive teaching procedures which accompany each worksheet, e.g., for one kindergarten workpage the author states: "Show a circle on the flannel board or chalkboard. Ask the pupils to name objects with the shape of a circle (clocks, wheels, dishes, etc.)." In the developer's words: "The methods used aim to develop an understanding of each concept and to foster a discovery approach to learning." Presentation of the material combines the use of visuals and oral presentation; however, the visuals must be supplied by the users. The teacher initiates all activities and interaction is limited between the teacher and one or more students. **MEANS OF EVALUATION:** Analysts report there are no evaluation materials to accompany this product.	**PHYSICAL DESCRIPTION:** The spiralbound demonstration copies contain the teacher's guides and the prepunched master carbon units which can be reproduced on any liquid duplicator. The teacher's guides are presented in English and Spanish. The workpages make use of Spanish only. The books are softcovered and a complete complement consists of 11 books. **SOURCE:** Materials translated and rewritten in Spanish so as to be more suitable for the target population. **COMMUNITY ACCEPTANCE/FAIRNESS:** One analyst expressed concern over the lack of Hispanic cultural elements reflected in the material. However, another analyst felt that adequate adaptations in cultural representation had been made. Black pupils depicted in the illustrations have diagonal lines drawn over flesh areas to suggest a darker skin color.
Congruence of Four Instructional Design Constructs	**Overall Assessment and Recommendations**
SUMMARY: It is the opinion of the analysts that the lack of a mechanism designed to assess student growth is a rather serious oversight. However, the remaining constructs are praised for their comprehensiveness.	**SUMMARY:** The major weakness of the program is the lack of evaluation materials. The analysts agree that this program could be used effectively by any Spanish-speaking population in the United States since the content organization is generally in accord with curricula used in grades k-2 throughout the United States.

MATEMÁTICA PARA LA EDUCACIÓN PRIMARIA

Identification and Background

TITLE: Matemática para la Educación Primaria

AUTHORS: Robert E. Eicholz et al. (original English edition); Alfonso C. Hernando et al. (Spanish edition)

PUBLISHER: English edition: Addison-Wesley Publishing Company, Inc.; Sand Hill Road; Menlo Park, CA 94025; Spanish edition: Fondo Educativo Interamericano, S.A.; Apartado Aéreo 6747; Cali, Colombia

COPYRIGHT: 1968-71 (Spanish edition); 1968 (English edition)

MEDIUM: print (textbooks and consumable text/workbooks)

COMPONENTS:

*Cartillas de aprestamiento** (readiness workbooks)
*Libro pre-escolar** (preschool book)
Matemática para la educación primaria 1-6 (text/workbooks and textbooks)
Guía del maestro, pre-escolar, 1-6* (teacher's guides)

*not available for analysis

NOTE: The current Addison-Wesley Publishing Company catalog lists a *Pruebas de evaluación y clave* component for each level (1-6). Since they were not available for analysis, it is not known whether these evaluation materials differ from those found in the textbooks.

SUBJECT AREA: mathematics

CURRICULUM ROLE: basic

GRADE LEVELS: preschool-6

POPULATION CHARACTERISTICS: Not specified.

RESEARCH AND DEVELOPMENT EVIDENCE: None specified.

LINGUISTIC CONTENT: Uses language understood by most Spanish-speakers worldwide.

LANGUAGE LEVEL: 1-6, advanced.

First Instructional Design Construct: Intents

DEVELOPER'S RATIONALE: The task of teaching mathematics stems from these basic premises: "... there are concepts that can be isolated and presented with precision and clarity; that when truly understood concepts must be integrated and interrelated in order to form a mathematical structure..."

LEARNER GOALS: To facilitate mastery of basic numeric operations and to encourage learners to discover new ideas, patterns, and significant relationships, and to arrive at generalizations by themselves.

LEARNER OBJECTIVES: There are both highly specified unit and content objectives. The following are from the level-two guide, unit seven. Unit objectives: "To increase the understanding of addition with two-digit numbers. To develop an understanding of subtraction with two-digit numbers. To perfect skills with combinations of addition and subtraction." Lesson one: "To review the basic principles of order and grouping." Lesson two: "To introduce the idea of regrouping sums in addition; to focus attention on the idea of drawing conclusions in mathematics." There are 17 more lessons in unit seven.

Second Instructional Design Construct: Contents

SCOPE: Skills and concepts are continually repeated and expanded on succeeding levels. General topics include: sets; comparisons; patterns; natural, rational, cardinal, and ordinal numbers; computational skills; inequality; measure; money; theory of numbers; numeric bases; concepts of geometry; fractions; decimals; per cent; probability. Supplementary activities are incorporated in the guides.

SEQUENCE: The material is organized from simple to complex and from concrete to abstract. All learners enter and exit at the same points; however, all do not necessarily follow the same route since there are accommodations for branching and recycling. Advance organizers are used frequently.

Third and Fourth Instructional Design Constructs

METHODOLOGY: The methodology is most thoroughly described in the guides. It is a modern mathematics program based on a discovery approach. Material to be covered is presented in two-page lessons, although the developers are aware that a lesson may well involve more or less than two student pages. All the student pages are reproduced in the teacher's guides.

The lesson descriptions in the guides have six major parts: purpose (i.e., lesson objectives); mathematical concepts (a brief description of the topics and skills to be covered); preparation activities (a section with dual purpose: supplying activities the learner must be able to do before beginning the new material while, at the same time, stimulating learner interest); directions for the actual presentation; continuation activities (i.e., branching activities designed to accommodate individual learner differences); and possible activities (key exercises designed to facilitate the achievement of the objectives). All six may not be incorporated in every lesson.

Though appearing less frequently, resource activities for reinforcement purposes and motivation are also provided. Objects called "educational aids" are suggested at times to accompany the presentations; these objects (not supplied) are readily accessible to most teachers. In addition, sections provide a general overall view of each unit, including new mathematics vocabulary, listed so that teachers can clarify meanings in various contexts.

MEANS OF EVALUATION: Since this program focuses primarily on process as opposed to mechanics, the developers feel daily observations will give the teacher a better indication of learner capabilities and progress than would testing mechanics. Key pages are mentioned in the guides which the teacher is to pay special attention to. This does not mean the evaluation of mechanics is excluded; there are evaluation sheets in almost every unit for this purpose as well.

Congruence of Four Instructional Design Constructs

SUMMARY: The content organization does not always lend itself to a discovery methodology.

Additional Considerations

PHYSICAL DESCRIPTION: All books are softcovered, but only the first three are consumable. Spacing is adequate.

SOURCE: Materials translated and rewritten so as to be more suitable for a Spanish-speaking population outside the United States.

COMMUNITY ACCEPTANCE/FAIRNESS: Noteworthy is the fact that, although the metric system receives primary treatment, the English system is discussed briefly, e.g., page 160, level three.

Overall Assessment and Recommendations

SUMMARY: All analysts agree that this program is very well organized. Because the materials were translated from English and adapted into a Spanish-speaking population outside the United States, the language may be a little difficult for U.S. learners. For this reason, one analyst does not recommend its use in bilingual bicultural programs. However, another analyst, supported by a third, feels the materials are very comprehensive and can be quite profitably used by U.S. Spanish-speaking learners.

MATEMÁTICAS

Identification and Background

TITLE: Matemáticas

AUTHORS: Juan Casulleras Regás and Laura Masip Bracons

PUBLISHER: Ediciones Anaya, S.A.; Salamanca: L. Braille 4 (distributed by Anaya-Las Americas Spanish Book Center; 152 East 23rd Street; New York, NY 10010)

COPYRIGHT: 1971-73

MEDIUM: print (textbooks and consumable workbooks)

COMPONENTS:

Matemáticas 1-5 (textbooks)
Fichas de enseñanza individualizada 1-4, 5a, b (workbooks)
Soluciones 1-4 5a, b (answer books)
Guia del profesor 1-5

SUBJECT AREA: mathematics

CURRICULUM ROLE: basic

GRADE LEVELS: 1-5 (for use in Spain); 2-6 (as assessed by analysts for use in the United States)

POPULATION CHARACTERISTICS: Not specified.

RESEARCH AND DEVELOPMENT EVIDENCE: None specified.

LINGUISTIC CONTENT: Uses language understood by most Spanish-speakers worldwide. Some lexical items are characteristic of use in Spain.

LANGUAGE LEVEL: 2-6, advanced.

117

First Instructional Design Construct: Intents

DEVELOPER'S RATIONALE: Mathematics is considered a fundamental area of elementary education, according to Spain's General Basic Education (E.G.B.). This program has been developed in accordance with this belief and the "new math" philosophy.

LEARNER GOALS: "The paramount function of teaching mathematics is to enable the student to organize knowledge and create formal structures for its use. By studying mathematics, students must achieve clarity, precision, and exactness in the thought process which will, in turn, facilitate the expression of ideas in symbols."

LEARNER OBJECTIVES: Several types of objectives are listed in the teacher's guides. The E.G.B. objectives are printed in all the guides but may or may not apply to this series. From 10 to 16 specific objectives applicable to each individual level follow. For example, level one: "Application of addition and subtraction to problem solving"; level five: "The capacity to read and express quantitative data." And, unit objectives accompany each unit, e.g., level four, unit four: "To understand the decimal. To justify its necessity and perform operations (addition and subtraction) beginning with quantitative situations."

Second Instructional Design Construct: Contents

SCOPE: Here is a sampling of general topics, skills, and concepts: shapes, sizes, sets, seriation, three-based numeration, four-based numeration, ten-based numeration, addition and subtraction, units of measure, multiplication and division, geometric shapes, set combinations and permutations, angles, lines, polygons, metric system, three-dimensional figures, operations with natural numbers, multiples and divisors, symmetry, circumference, area, fractions, decimals.

SEQUENCE: The material is organized in an order of increasing complexity. Students are placed on grade levels relative to age; however, based on evaluations of their performance in learning tasks, learners may work at individual rates. Recycling is given full support by the developers. Activities, however, are not supplied. The teacher is expected to base recycling activities on each learner's errors.

118

Third and Fourth Instructional Design Constructs

METHODOLOGY: Students are to participate actively in the learning process through practical activities in order that they might formulate a rule via deductive reasoning. Memorization is to be avoided. The methods employed by the developers have been labeled discovery and inquiry.

Interaction takes place between teacher and learners. Children with low reading abilities receive explanations from the teacher. Other children can be expected to read the textbooks and workbooks by themselves.

The authors claim students will draw their own conclusions based on reason, which may in turn foster creative thinking. There are no exercises, however, which make accommodations for creative thinking.

MEANS OF EVALUATION: Mastery tests based on unit objectives, with record-keeping materials and guides for the teacher, are provided by the developers to test the students' acquisition and ability to use mathematical concepts. The developers believe, however, that evaluation has three facets: initial, continuous, and final. Suggestions are supplied for the formulation of teacher-made initial and final evaluations, for such evaluations are not provided. The developers stress the importance of using test data to develop recycling activities.

Congruence of Four Instructional Design Constructs

SUMMARY: There are no substantial problems with congruence among the various design constructs.

Additional Considerations

PHYSICAL DESCRIPTION: The workbooks are consumable. All books are softbound. The illustrations in the level-one and -two books are much more colorful than the rest. The binding is not durable.

SOURCE: Spanish materials developed abroad without adaptation for use in the United States.

COMMUNITY ACCEPTANCE/FAIRNESS: Females are outnumbered by males in mathematical problem stories. Problems at times have little cultural relevance to learners in the United States, e.g., Spain's monetary system and the exclusive use of the metric system, although the latter seems likely to become quite relevant.

ACCURACY: Certain cultural differences constitute inaccuracies. Decimals, for example, are signaled by commas and place values by periods.

Overall Assessment and Recommendations

SUMMARY: This mathematics series is a very complete and comprehensive program. The developers had the good sense to write their own objectives, in addition to following those developed for the E.G.B. There are relatively few problems with instructional design. Perhaps the user would be better served if the authors had developed pre- and posttests rather than simply supplying suggestions for their development.

Problems do arise, however, when one considers that this program is not entirely consistent with elementary mathematics curricula in the United States. Concepts of geometry, for example, are not treated quite as early as they are in this series. And, there are cultural variations.

For these reasons, one analyst does not recommend the use of this series. Yet another does not dismiss the merits of this instructional material and suggests it can be readily adapted. It is suggested, however, that if selected for use in the United States, the user begin the series on the second-grade level rather than the first, due to the difficulty of the language level.

MATEMÁTICAS

Identification and Background

TITLE: Matemáticas

AUTHOR: Sebastián Marsinyach Dalmases

PUBLISHER: Editorial Bruño; Marqués de Mondéjar, 32; Madrid –28 (distributed by Anaya-Las Americas Spanish Book Center; 152 East 23rd Street; New York, NY 10010; and by Spanish Book Corporation of America; 115 Fifth Avenue; New York, NY 10019)

COPYRIGHT: 1973

MEDIUM: print (textbooks, consumable text/workbook, and consumable workbooks)

COMPONENTS:

*Libro de consulta 2, 3, 4-7** (textbooks)
Consulta y fichas de trabajo 1 (text/workbook)
*Fichas de trabajo 2, 3, 4-7** (workbooks)
*Soluciones 6, 7** (answer books)

*not available for analysis

SUBJECT AREA: mathematics

CURRICULUM ROLE: basic

GRADE LEVELS: 1-3 (for use in Spain), 2-4 (as assessed by analysts for use in the United States)

POPULATION CHARACTERISTICS: Not specified.

RESEARCH AND DEVELOPMENT EVIDENCE: None specified.

LINGUISTIC CONTENT: Uses language understood by most Spanish-speakers worldwide.

LANGUAGE LEVEL: 2-4, intermediate.

151

First Instructional Design Construct: Intents

DEVELOPER'S RATIONALE: (implied) To teach the student the basic mathematical processes.

LEARNER GOALS: (implied) The learner will master basic mathematical skills associated with those taught in U.S. schools in grades one through five.

LEARNER OBJECTIVES: (implied) Judging from the contents, the analysts infer that these are the objectives: to develop the mathematical expertise associated with classification, grouping, concepts of geometry, measurement, numeration, and computation.

Second Instructional Design Construct: Contents

SCOPE: The treatment of a very broad range of topics, found in most highly skill-oriented mathematics programs, lacks depth:

- level one: ordering, classifying, grouping, simple sequencing, sets, geometric shapes, measurement
- level two: extended set theory, relationships, commutative and associative properties, multiplication, division, measurement (metric system), time, money, expanded concepts of geometry
- level three: sets (complementary subsets, null sets, intersecting sets, corresponding sets, coordinate sets), distributive property, geometry (segments, angles, perpendiculars, and parallels), measurement (comparison, mass, capacity, area)

SEQUENCE: All students are to work and progress as a group. Consequently, there are single entry and exit points.

152

Third and Fourth Instructional Design Constructs

METHODOLOGY: The teaching methodology is not explained. The approach throughout the series consists of a presentation of the mathematical concept (e.g., "These people constitute elements of a set."), followed by exercises wherein the learner is asked to apply this information (e.g., "Form a set using these elements."). The methodology is obviously didactic and the learning environment teacher-centered.

MEANS OF EVALUATION: Diagnostic materials have not been developed. Instead, students are instructed to turn in activity sheets which the teacher grades on a seven-point scale. Records of results are to be maintained. The effect this is to have on the learning process is neither stated nor implied.

Congruence of Four Instructional Design Constructs

SUMMARY: The means of evaluation described above does not seem congruent with the intents. A review of activity sheets may not yield information necessary to determine if learners have achieved the objectives, nor does it indicate the type of corrective measures which should be employed.

153

Additional Considerations

PHYSICAL DESCRIPTION: The text/workbook [level one] and the workbooks are consumable. All books are softcovered. The level-one text/workbook is the only book which has a handy reference table listing the contents of the activity sheets according to topic. The binding of the workbooks is not very durable.

SOURCE: Spanish materials developed abroad without adaptation for use in the United States.

COMMUNITY ACCEPTANCE/FAIRNESS: Target populations in the United States may be unfamiliar with some of the terminology. The metric system is taught exclusively, as is Spain's monetary system.

CURRENCY: "New math," along with traditional mathematics processes, are taught.

Overall Assessment and Recommendations

SUMMARY: Much material is presented in this series in a seemingly effective fashion. One analyst feels that this material could be very appropriate for use in the United States if implemented one grade level above that suggested by the developers. In addition, the sole use of the metric system might be a problem until the United States has begun the full swing of the conversion process. Individualization of the learning activities is not provided for, and interaction among learners is virtually nonexistent.

The lack of stated goals and objectives, of evaluation materials, and of a discussion of the teaching methodology detract from the overall effectiveness of the program. However, one analyst does not object to the lack of stated intents, feeling that they are implied in the contents and activities and can be readily inferred.

154

MATEMÀTICAS MODERNAS PARA ESCUELAS PRIMARIAS

Identification and Background

TITLE: Matemáticas Modernas para Escuelas Primarias

AUTHORS: Ernest R. Duncan et al.

PUBLISHER: Publicaciones Cultural, S.A.; Lago Mayor, 186; México 17, D.F. (distributed by Continental Book Company; 11-03 46th Avenue; Long Island City, NY 11101; by Lectorum Publications; 137 West 14th Street; New York, NY 10011; and by Spanish Book Corporation of America; 115 Fifth Avenue; New York, NY 10019)

COPYRIGHT: 1971 (based on *Modern School Mathematics: Structure and Use*, copyright 1967 by Houghton Mifflin Company)

MEDIUM: print (textbooks, consumable text/workbook, and consumable workbooks)

COMPONENTS:

Preprimaria (text/workbook)
Matemáticas modernas para escuelas primarias 1-6 (textbooks)
Libro de trabajo 1, 2, 3-6* (workbooks)
Guía del maestro preprimaria-6 (teacher's guides)

*not available for analysis

SUBJECT AREA: mathematics

CURRICULUM ROLE: basic

GRADE LEVELS: k-6

POPULATION CHARACTERISTICS: Not specified.

RESEARCH AND DEVELOPMENT EVIDENCE: None specified.

LINGUISTIC CONTENT: Uses language understood by most Spanish-speakers worldwide.

LANGUAGE LEVEL: k-6, advanced.

155

First Instructional Design Construct: Intents

DEVELOPER'S RATIONALE: To present an elementary school modern mathematics program that emphasizes fundamental concepts of arithmetic and facilitates learning.

LEARNER GOALS: "Its principal objectives are ... to help [students] acquire mathematical skills... But mathematics is something more than understanding: It encompasses abstract skills and processes ... [that] should be developed completely and with common sense."

LEARNER OBJECTIVES: In the manuals, both chapter and lesson objectives are listed. Here are the chapter-two objectives, level three, and the first set of lesson objectives. Chapter objectives: "To develop the meaning of addition and subtraction. To teach once again combinations of addition and subtraction to sums of 18. To introduce the five-step method of problem solving." Lesson objectives: "To help the students understand the relationship that exists between addition and subtraction. To practice the concept of comparison in [conjunction with] subtraction."

Second Instructional Design Construct: Contents

SCOPE: In the front of the manuals, there is a series of charts which divide the contents into 10 general topic areas: sets; numbers and numerals; number sentences; mathematical operations; measure; geometry; functions; probability and statistics; theory of numbers; and logic. A further breakdown to specific topics and concepts for each grade level is then given. The majority of the areas, though not all, are treated on each level. And, as a topic recurs, it is dealt with in greater depth and breadth. Beginning on level three, there are branching and review exercises.

SEQUENCE: Sequence is fixed, based on increasing difficulty, and moves from concrete to abstract within the major topic areas. Entry and exit points are fixed for all learners, and the route is linear. Both branching, for fast learners only, and recycling, for slow learners, are recommended by the developers. Guidelines for the development of these activities are supplied. Branching activities have been developed by the authors for each chapter in levels four through six.

156

Third and Fourth Instructional Design Constructs

METHODOLOGY: The learning environment, as inferred from the procedures specified in the guides, is structured and offers frequent teacher-learner interaction. The teacher initiates all activities and makes all decisions. Learners generally work as a class and individually; however, for branching and recycling purposes, grouping is recommended.

The methodology used is a mixture of didactic and discovery techniques, depending on the topic being taught. Material is first presented using color illustrations and concrete objects and, later, concepts are presented in abstract situations. Each book provides for approximately 33 weeks of instruction, excluding tests and additional work the teacher may wish to incorporate.

The manuals provide the teacher with clear instructions for the presentation of lessons, as well as sections designed to familiarize teachers with the idiosyncrasies of the concept to be taught. General suggestions for the presentation of material and development of activities (e.g., branching, recycling, and games) are also supplied.

MEANS OF EVALUATION: The developers state that the principal reason for assessing learner progress is to find out which concepts have not been mastered so that corrective measures can be taken. They go on to point out that purely mechanical operations are inadequate if understanding is the primary goal. Many learners, they claim, can achieve success on tests and not understand the skills and concepts. A list of criteria which should be used to assure that learners understand concepts follows these remarks, along with suggested activities that complement the evaluation process. The development of actual evaluation materials, on the other hand, is left to the user.

Congruence of Four Instructional Design Constructs

SUMMARY: The developers provide a sound rationale for the incorporation of branching and recycling activities, as well as for evaluation procedures. Moreover, they define important elements that should be contained in each. But, inexplicably, the development of all recycling activities, branching activities for levels k-2, and all evaluation activities has been left to the user.

157

Additional Considerations

PHYSICAL DESCRIPTION: All books are softcovered. The instructions for the levels k-2 student textbooks direct learners to write in the books, making them consumable. However, there is no reason why work, at least on levels one and two, could not be done on paper.

SOURCE: Materials translated and rewritten in Spanish so as to be more suitable for a target population outside the United States.

COMMUNITY ACCEPTANCE/FAIRNESS: Only the metric system is presented. Mexican currency is used in all exercises involving money.

Overall Assessment and Recommendations

SUMMARY: This series does cover a wide range of skills and concepts in adequate depth. Nevertheless, the developers fall short of offering a completely developed program. Half of the branching activities and all of the recycling and assessment activities must be developed by the teacher. And, some of the topics are not entirely relevant to U.S. Spanish-speaking learners.

158

MATEMÁTICAS PROGRAM III

Identification and Background

TITLE: Matemáticas Program III

AUTHORS: Emiliano Martínez (Director), Gloria Roldán (Director, area of mathematics)

PUBLISHER: Santillana, S.A.; Elfo 32; Madrid - 27 (distributed by Santillana Publishing Company; 575 Lexington Avenue; New York, NY 10022)

COPYRIGHT: 1974-75

MEDIUM: print (consumable text/workbooks)

COMPONENTS:

Libro de trabajo 1-5 (text/workbooks)
Guía didáctica del profesor 1-5 (teacher's guides)

SUBJECT AREA: mathematics

CURRICULUM ROLE: basic

GRADE LEVELS: 1-5 (for use in Spain)

POPULATION CHARACTERISTICS: Not specified.

RESEARCH AND DEVELOPMENT EVIDENCE: None specified.

LINGUISTIC CONTENT: Uses language understood by most Spanish-speakers worldwide. Culturally charged language, characteristic of peninsular Spanish, is contained in comic strip dialogs.

LANGUAGE LEVEL: 1-5, advanced.

159

First Instructional Design Construct: Intents

DEVELOPER'S RATIONALE: In light of the findings of such theorists as G. Boule and Piaget which correlate the laws that govern the thought process and the laws of mathematics, the developers find it necessary to provide students with a firm orientation to mathematics from the moment they begin school.

LEARNER GOALS: Not specified.

LEARNER OBJECTIVES: Objectives are written for each main topic covered. After each is stated, it is classified in terms of Bloom's taxonomy, i.e., knowledge, comprehension, application, analysis, synthesis, and evaluation. For example, "A number is a multiple of 2 if it ends in 0 or if it is an even number [knowledge] . . . identify among several numbers those that are multiples of 2 [understanding]. . ."

Second Instructional Design Construct: Contents

SCOPE: The contents reflect the incorporation of elements commonly included in modern mathematics programs. Suggestions for enrichment are provided throughout. The following topics are treated in degrees of complexity appropriate to the grade level: sets, cardinal numbers, addition functions, number systems, minicomputers, lines, polygons, cylinders, symmetrical figures, time, money, measurement, metric system, series, natural relationships, decimal system, subtraction, multiplication, division, correspondents, fractions, number bases (3 and 5), logic, and Roman numerals.

SEQUENCE: The sequence of the materials is based on increasing complexity. The route is linear with fixed entry and exit points, and students proceed as a class according to performance on tests. Implementation of enrichment activities is optional.

160

Third and Fourth Instructional Design Constructs

METHODOLOGY: The teacher, the developers point out, is important as a guide but the learners themselves should construct the "edificio matemático," realizing and developing their own conclusions. Here is an example of how a lesson progresses.

I. Objectives:
   (a) the triangle as a three-sided polygon
   (b) classification of triangles according to sides and angles
   (c) height and measurement of triangles

II. Materials: compass, crayons, pages, etc.

III. Presentation: Children should understand the triangle has three sides. (Suggestions are provided for the development of this concept and for the presentation of the activities in the workbooks.)

IV. Recapitulation:
   (a) list of objectives of evaluation
   (b) activities for evaluation

The descriptions in the guides are clear, concise, and accompanied by a reproduction of each workbook page. The developers have not used modern mathematics exclusively. One analyst reports some concepts are presented along traditional lines.

MEANS OF EVALUATION: The design of the evaluation materials is both diagnostic and therapeutic. Frequent evaluation is possible via suggestions for assessing student mastery of objectives pertaining to each unit. After roughly four units have been covered, another more formal test is given. These formative tests not only have specific objectives but also list the objectives according to the lesson the individual objective was taken from, and the test items which measure mastery of the objective. It is therefore quite easy to pinpoint learning difficulties and make necessary alterations.

The final summative tests, administered at the end of each level, define learner progress for the entire year. Guidelines for interpreting the results of both the summative and formative tests can be found in the manuals. All forms of evaluation are highly congruent with the corresponding objectives.

Congruence of Four Instructional Design Constructs

SUMMARY: The analysts find the design constructs to be comprehensive and congruent.

161

Additional Considerations

PHYSICAL DESCRIPTION: All materials – student workbooks and teacher's guides – are softcovered. Some pages appear crowded with illustrations and material; however, these instances are relatively few.

The use of rods and other manipulatives is mentioned at times in the teacher's guides. The mathematics box which contains these accessories is sold separately by Santillana. It contains Cuisenaire rods, a geo-board with complementary rubber bands in assorted colors, a minicomputer with 45 chips of varied colors, and a set of geometric figures of different colors, sizes, shapes, and textures.

SOURCE: Spanish materials developed abroad without adaptation for use in the United States.

COMMUNITY ACCEPTANCE/FAIRNESS: Many references to Spanish culture may present problems to the learner in the United States. The calendar is vertical, rather than horizontal, the numeral 7 is presented as 7, a comma is used where a decimal point is commonly used in the United States, addition is done from top to bottom (although carried numbers are added to the bottom number in the left column), and the Spanish monetary system is taught.

Many children are depicted in the illustrations; none are black.

ACCURACY: In book one, the commutative property of addition is to be discovered by learners without explanation before or after they have done so.

Overall Assessment and Recommendations

SUMMARY: The material is very well designed, organized, and presented.

For bilingual programs, the material may be difficult and, if selected for use, should be used one year above the levels recommended by the developers.

This program is specifically designed for use in Spain and cultural variations do present problems. The strongest recommendation for the use of the program is as a resource material.

162

MODERN MATHEMATICS PROGRAM I

Identification and Background

TITLE: Modern Mathematics Program I

AUTHOR: Nydia Ayala Betancourt (Director)

PUBLISHER: Santillana, S.A.; Elfo 32; Madrid – 27 (distributed by Santillana Publishing Company; 575 Lexington Avenue; New York, NY 10022)

COPYRIGHT: 1972 (rights for the Mexican adaptation)

MEDIUM: print (textbook and consumable workbooks)

COMPONENTS:

Delta: libro de consulta 5/6 (textbook)
Fichas de trabajo 1-6 (workbooks)
Tecnología educativa 1-6 (teacher's guides)
Teacher's Guide 1-2 (in English) forthcoming

SUBJECT AREA: mathematics

CURRICULUM ROLE: basic

GRADE LEVELS: 1-6

POPULATION CHARACTERISTICS: Not specified.

RESEARCH AND DEVELOPMENT EVIDENCE: None specified.

LINGUISTIC CONTENT: Uses language understood by most Spanish-speakers worldwide. Some lexical items are characteristic of peninsular Spanish.

LANGUAGE LEVEL: 1-6, advanced.

163

First Instructional Design Construct: Intents

DEVELOPER'S RATIONALE: (implied) Modern mathematics should be included in the curriculum and be initiated as soon as the child begins school, in order to establish a firm mathematics base for future study.

LEARNER GOALS: (implied) The development of basic mathematical skills: viz., to recognize and work with union, intersection, etc., of sets; to recognize and use cardinal numbers; to use cardinal numbers in adding, subtracting, and so on; to recognize and work with lines (straight, curves, axioms, etc.); to work with topology (open and closed curves, convex and concave); measurement; and logic.

LEARNER OBJECTIVES: Each unit has stated objectives divided into two categories. The content objectives list the mathematical skills and concepts to be developed, e.g., "Introduction to multiplication of natural numbers ... multiplication of natural numbers ... application of multiplication... practice of multiplication." The formal objectives are based on Bloom's *Taxonomy of Educational Objectives* and apply to knowledge, comprehension, synthesis, analysis, and application.

Second Instructional Design Construct: Contents

SCOPE: Throughout the program, there are six main topics which are covered: sets, natural number operations, geometry, topology, measurement, and logic. One analyst's reaction to the handling of the content is that the topics are dealt with extensively. Another, supported by a third analyst, finds the scope narrow and the treatment of the content cursory.

SEQUENCE: The route is linear with single exit and entry points. Skills and topics increase in complexity. Although the developers have included branching and recycling materials in each unit to accommodate individual learning differences, it is reported that little is done to direct the teacher in the implementation of the activities.

164

Third and Fourth Instructional Design Constructs

METHODOLOGY: The manuals contain detailed descriptions of the process to be followed in the teaching of mathematical concepts. Few examples of the suggested activities are actually given, and little mention is made of the learning environment. Objectives appear to be uniform for all learners, and branching and recycling activities have been designed to make this feasible.

The method is didactic. In the guides, most units follow a similar pattern of development. Material to be presented is discussed in terms of its relevance to the entire program and requisite knowledge. Objectives are stated and the learning activities described. Evaluation follows, along with branching and recycling options.

The developers use Piaget's learning theory to support the sequence of material and the development of particular skills at each level.

MEANS OF EVALUATION: Found in each unit are short evaluation exercises, located in the workbooks, which enable the teacher to monitor learner progress and make necessary alterations.

After students complete several units, more comprehensive criteria-referenced assessments, which again are part of the workbooks, can be administered. These tests have stated objectives, and measure mastery of concepts and skills taught in the units preceding the evaluation unit. The first-year evaluations are not in printed form, because the developers feel that at this developmental stage children should not be exposed to a written examination.

The activities are of two types: those, located at the end of a developmental phase of a concept, which require comprehension, and those which test the acquisition of a totally developed concept.

Congruence of Four Instructional Design Constructs

SUMMARY: The four design constructs are highly congruent.

Additional Considerations

PHYSICAL DESCRIPTION: This program is composed of six softbound, consumable student workbooks, six softbound guides, and one hardbound textbook to be used with levels five and six. The bindings of the workbooks tend to separate easily, and the pages are designed to be torn out.

SOURCE: Spanish materials developed abroad without adaptation for use in the United States.

TEACHER PREPARATION: Some familiarization with mathematics terminology in Spanish may be necessary.

COMMUNITY ACCEPTANCE/FAIRNESS: This program is a Mexican adaptation of an original Spanish program and includes some references to Mexico in illustrations and topography exercises. These references are not numerous. The graphics do not lend themselves to a cultural bias.

Overall Assessment and Recommendations

SUMMARY: The basic pattern of modern mathematics programs developed in the United States has been followed in this well designed series. It can be used profitably with any Spanish-speaking population. The analysts are concerned, however, with the terminology, feeling it may well be even more "foreign" to the learner than modern mathematics terminology in English. One analyst even expresses concern for the teacher's familiarity with these terms. Nevertheless, this program is recommended for use in the bilingual bicultural classroom.

EL MUNDO DE LA CIENCIA (primera etapa)

Identification and Background

TITLE: El Mundo de la Ciencia (primera etapa)

AUTHORS: Department of Education, Anaya

PUBLISHER: Ediciones Anaya, S.A.; Salamanca: L. Braille, 4; España (distributed by Anaya-Las Americas Spanish Book Center; 152 East 23rd Street; New York, NY 10010)

COPYRIGHT: 1971-73

MEDIUM: print (textbooks and consumable workbooks)

COMPONENTS:

Libro de consulta del alumno 1, 2-5* (textbooks)
Fichas de enseñanza individualizada 1, 2-5* (workbooks)
Guía del profesor 1-3, 4-5* (teacher's guides)
Soluciones 1-5 (answer books)

*not available for analysis

SUBJECT AREA: natural science

CURRICULUM ROLE: basic

GRADE LEVELS: 1-5 (for use in Spain)

POPULATION CHARACTERISTICS: Not specified.

RESEARCH AND DEVELOPMENT EVIDENCE: None specified.

LINGUISTIC CONTENT: Uses language understood by most Spanish-speakers worldwide.

LANGUAGE LEVEL: 1-5, advanced.

First Instructional Design Construct: Intents

DEVELOPER'S RATIONALE: Children are generally dominated by their immediate environments and are not capable of envisioning conditions different from those under which they themselves live. This series has been developed to explain further the learners' immediate environment and to acquaint them with others, both natural and social, foreign to their experience.

LEARNER GOALS: It can be inferred that the general EGB science objective applies to this program, i.e., to provide ". . . scientific development that will permit the child to understand the physical world in which he [or she] lives and the phenomena which [are] realized." A list of specific EGB objectives follows in the guides.

LEARNER OBJECTIVES: Specific unit objectives are provided in the guides. The following are examples:

level four, unit five: "In this unit the students will realize that all living things depend on the ground and water for sustenance. They will learn that growth and development of plants depend on substances in the ground."

level five, unit two: "Children, through an investigation of the nature of light and the way it behaves, should arrive at the understanding that light is a form of energy."

Second Instructional Design Construct: Contents

SCOPE: Major topics treated in this series include: matter and energy; time; light; solar system; the atmosphere; human beings; animals and plants. Topics are treated in more detail and at an increased depth as they recur in more advanced-level materials.

SEQUENCE: The route is linear and the material is arranged in an order of gradually increasing complexity. Opportunities for open-ended generalization are provided.

Third and Fourth Instructional Design Constructs

METHODOLOGY: The developers discuss the teaching methodology at length in the front matter of the teacher's guides. It is suggested that the teacher relate concepts whenever possible to the learners' immediate environment. Field trips are encouraged. In order to put students in contact with phenomena beyond the limits of their experience, drawings, photographs, and slides are to be used. Class activities are to be active, and the teacher's job is to suggest, comment, and guide, and to supply the learners with necessary background information.

Workbooks complement the concepts covered in the textbooks and class presentations. Developers claim the worksheets require the student to generalize, analyze, and amplify learned concepts, to recall observations, to form synopses, to interpret data, and to draw conclusions. Experiments are included from time to time as well.

The unit descriptions in the guides are comprehensive and most certainly helpful. An orientation to the material familiarizes the teacher with detailed background information, a part of which will be passed on to the learners. Suggestions for motivation accompany each unit and focus on observation processes that will stimulate student interest. Textbooks are used alternately for reading and as sources of experiments and material for discussion.

MEANS OF EVALUATION: In the expressed opinion of the developers, evaluation is to be part of the learning process as opposed to being tests administered at the end of each unit. After students have completed an "invitation to science," the teacher should develop and administer tests that will result in an objective assessment of each learner, following these guidelines: content should be clearly defined; questions should be clearly written and ordered in increasing difficulty; tests should contain an equal quantity of simple, moderately difficult, and difficult questions; tests should be administered to learners who have regularly completed assignments; and three types of questions should be used: short answer, explicative, and solving problematic situations.

A complete analysis is described as one which also involves an observation of student attitudes and work habits. All results should be filed and shown to the student at "the opportune moment." After every five or so worksheets, there are also recombination worksheets which the developers claim will give insight into each learner's level of comprehension, retention of information, and ability to apply and generalize learned concepts.

Congruence of Four Instructional Design Constructs

SUMMARY: The developers have adequately defined the rationale for, and the importance of, a means of evaluation; however, the task of development is left to the user. Suggestions for the interpretation of results and the effect the recombination worksheets are to have on the learning process are also inconclusive. There is a high degree of congruence among the remaining constructs.

Additional Considerations

PHYSICAL DESCRIPTION: The illustrations, diagrams, photographs, and sketches are colorful and extremely helpful. Textbooks, workbooks, and answer books are all softcovered.

SOURCE: Spanish materials developed abroad without adaptation for use in the United States.

COMMUNITY ACCEPTANCE/FAIRNESS: Although not frequently, women are depicted traditionally, i.e., in domestic roles.

Overall Assessment and Recommendations

SUMMARY: The authors do not lose sight of the learner's perspective. New material is constantly related to experiences common to the learners, with the purpose of expanding the realm of their experiences so that they may arrive at a fuller understanding of new concepts. Reinforcement enables learners to solidify their understanding. Experience-oriented activities are balanced with more standard textbook/workbook techniques. The content is comprehensive, though possibly a little difficult for U.S. learners, and the methodology is very well described. The only major weakness, as mentioned above, is the failure on the part of the authors to present a fully developed means of evaluation.

This program is termed an excellent Spanish natural sciences series and is highly recommended for use.

NATURAL AND SOCIAL SCIENCES PROGRAM II

Identification and Background

TITLE: Natural and Social Sciences Program II (natural science component)

AUTHORS: Emiliano Martínez (Director), José Muñoz (Director, area of natural science)

PUBLISHER: Santillana, S.A.; Elfo 32; Madrid – 27 (distributed by Santillana Publishing Company; 575 Lexington Avenue; New York, NY 10022)

COPYRIGHT: 1971-74 [1973 for Mexican adaptation]

MEDIUM: print (textbooks and consumable workbooks)

COMPONENTS:

Consultor 2-8 (textbooks) [levels 2-5 cover both social and natural science areas]
Fichas de trabajo 1-8 (workbooks)
Fichas respuesta 1-2, 3-8 * (answers for workbooks)
Tecnología educativa 1-8 (teacher's guides)
Pruebas de evaluación (Santillana Evaluation System**)
Fichas de evaluacion 1-8 (evaluation materials)
Tecnologia educativa 1-8 (teacher's test manuals)
Tecnologia educative 1-8 (teacher's test manuals for final tests)

[The Mexican adaptation has been shortened and slightly modified. Since a complete complement of materials for this edition was not available for analysis, the Spanish series has been given primary focus. Analysts found most of the information applied equally to both editions, except where indicated. Components of the Mexican Adaptation: *Consultor 4-6* (textbooks); *Fichas de trabajo 1-6* (workbooks); *Tecnología educativa 1, 2, * 3-6* (teacher's guides)]

* not available for analysis
** One Santillana Evaluation System covers the evaluation components for Santillana's mathematics, language, social science, and natural science series. It must be purchased as a complete system.

SUBJECT AREA: natural science

CURRICULUM ROLE: basic

GRADE LEVELS: 1-8

POPULATION CHARACTERISTICS: Not specified.

RESEARCH AND DEVELOPMENT EVIDENCE: None specified.

LINGUISTIC CONTENT: Uses language understood by most Spanish-speakers worldwide. Some usage and lexical elements in the original Spanish edition are characteristic of usage in Spain. The Mexican edition contains slightly simpler terminology.

First Instructional Design Construct: Intents

DEVELOPER'S RATIONALE: To teach science through a process of investigation and self-discovery, involving a structured format directed at the formulation of questions and finding solutions.

LEARNER GOALS: Students are expected to learn to use nine scientific processes in conjunction with material to be covered: observation, measurement, the use of time/space relationships, communication (for the exchange of information), interpretation of data, formulation of a hypothesis, control of variables, and formulation of operative definitions.

LEARNER OBJECTIVES: The learner objectives for each unit are based on Bloom's *Taxonomy of Educational Objectives:* content objectives, which refer to generalizations, concepts, and basic knowledge that has to be mastered by the learner; and formal objectives, which describe what the child will know or be able to do as a result of the learning experience. Several objectives of each type are formulated for each unit, e.g., content objective: "Without the atmosphere, life on earth would not exist." formal objective: "Movement from one level of abstraction to another."

Second Instructional Design Construct: Contents

SCOPE: Matter and energy, the world and the universe, our planet, and living things and their environments are the four subject areas treated by books one through five on the knowledge, understanding, application, analysis, synthesis, and evaluation levels.

The developers address science as a product and process. During the first grade, the activities are geared to develop the scientific process and to transmit the concepts that will be used by students to expand their conceptual scheme. The following four grade levels exhibit a sizable separation between the process and concepts. The scientific process is developed through student work and activities. "How Scientists Work" is a section in the fourth- and fifth-grade textbooks. On the sixth-grade level, the interpretation of data, formulation of hypotheses, and experimentation are introduced and continue throughout the seventh and eighth levels.

SEQUENCE: The sequence of the material is based on increasing complexity. All students begin and terminate at the same points; however, all learners may not necessarily cover the same material, as some students may participate in branching activities, others in recycling activities, and still others may not participate in either of the two.

LANGUAGE LEVEL: 1-8, advanced.

Third and Fourth Instructional Design Constructs

METHODOLOGY: Science is taught through an investigative process. A small amount of the presentation is didactic; however, the primary methods are discovery and experimental. The developers cite Kuslan and Stone's *Teaching Children Science: An Inquiry Approach* as the basis on which the series is conceived, i.e., students should ". . . study scientific phenomena with the same focus and spirit with which the scientist does."

Students interact with each other in small groups, with the teacher, and at times work individually. Learner input is an important part of the formation of generalizations. Textbooks serve as references which are consulted to obtain needed information.

The user instructions are useful and detailed. The format which is used in the presentation of the unit begins with a general orientation followed by the statement of objectives, explicit instructions of the didactic process, evaluation, accommodations for learner differences, and a summary of materials needed for the unit. The amount of time to be spent on each unit is left to the teacher, dependent on the idiosyncracies of each learning situation.

MEANS OF EVALUATION: Two methods of measuring learner progress have been incorporated in the program. In order that the teacher may closely monitor learner progress, each unit, beginning at level two, contains a section in the guides called internal evaluation. Key worksheet activities are signaled, which gives the teacher an indication of how well, if at all, the learner has achieved the objectives. Results are to be used as a guide for teacher judgment in regard to branching and recycling activities.

The Santillana Evaluation System, a group of prepared criteria-referenced tests, provides continuous assessment of learner progress for the language, mathematics, social science, and natural science programs. Five SES tests (six, including the final) are provided for each subject area on each level. The evaluation units come complete with objectives selected from the previous five units and suggestions for grading and interpretation of results. Two sets of manuals, one for the SES tests and one for the final test, along with record-keeping cards, are available.

Congruence of Four Instructional Design Constructs

SUMMARY: There appears to be a fair degree of congruence among the design constructs.

Additional Considerations

PHYSICAL DESCRIPTION: With the exception of the textbooks, all books are softbound. The workbook materials are consumable, as is the SES. The analysts characterize the series as attractive and colorful.

The SES is composed of eight test manuals designed to be used with the criteria-referenced tests, eight manuals designed to be used in conjunction with the final tests, and eight evaluation packages containing the tests and record-keeping cards. As stated above, four subject areas are represented in the SES and the components must be purchased as a complete system.

SOURCE: Spanish materials developed abroad without adaptation for use in the United States.

TEACHER PREPARATION: One analyst feels teachers may not be familiar with some of the scientific terminology.

COMMUNITY ACCEPTANCE/FAIRNESS: There are religious overtones in the edition for use in Spain which may cause problems in the United States. There is a general lack of cultural content relevant to Spanish-speaking groups living in the United States. Many famous men in science are listed, but no famous women.

Overall Assessment and Recommendations

SUMMARY: Based on the congruence among the design constructs and a teaching methodology which makes accommodation for individualization and enrichment, this series is recommended for use in bilingual programs. Use with fluent speakers is stressed however, since a good deal of the terminology will not be familiar to the children. One analyst suggests that these materials be used one to two years above the grade levels specified by the developers.

The Mexican adaptation is recommended over the Spanish edition because the pictures depict Mexico (which is at least in the Western Hemisphere) and the terminology is slightly simpler, and also because the Mexican adaptation has no references to the "Creador." Again, be it the Spanish or Mexican edition, the difficulty of the language for speakers who do not receive exposure to the technical terminology outside the classroom should be the major consideration for potential users.

NATURAL AND SOCIAL SCIENCES PROGRAM II

Identification and Background

TITLE: Natural and Social Sciences Program II (social science component)

AUTHORS: Emiliano Martínez (Director), Sergio Sánchez (Director, area of social science)

PUBLISHER: Santillana, S.A.; Elfo 32; Madrid – 27 (distributed by Santillana Publishing Company; 575 Lexington Avenue; New York, NY 10022)

COPYRIGHT: 1971-74

MEDIUM: print (textbooks and consumable workbooks)

COMPONENTS:

Consultor 2-8 [Levels 2-5 cover both social and natural science areas.]
Fichas de trabajo 1-8 (workbooks)
*Fichas respuesta 1-2, 3-8** (answers for workbooks)
Tecnología educativa 1-8 (teacher's guides)
Pruebas de evaluación (Santillana Evaluation System**)
Fichas de evaluación 1-8 (evaluation materials)
Tecnología educativa 1-8 (teacher's test manuals)
Tecnología educativa 1-8 (teacher's test manuals for final tests)

* not available for analysis

**One Santillana Evaluation System covers the evaluation components for Santillana's mathematics, language, social science, and natural science series. It must be purchased as a complete system.

SUBJECT AREA: social science

CURRICULUM ROLE: basic

GRADE LEVELS: 1-8

POPULATION CHARACTERISTICS: Not specified.

RESEARCH AND DEVELOPMENT EVIDENCE: None specified.

LINGUISTIC CONTENT: Uses language understood by most Spanish-speakers worldwide.

LANGUAGE LEVEL: 1-8, advanced (Analysts report the difficulty of the language is such that in the bilingual classroom these materials should be used from one to two years above the developer's specifications.)

First Instructional Design Construct: Intents

DEVELOPER'S RATIONALE: To fulfill the basic requirements for a social studies curriculum in Spain and to present the content from a new point of view.

LEARNER GOALS: As expressed by the developers, the fundamental objective of this program is to provide learners with an understanding of the social reality which surrounds them: to develop attitudes, habits, and a positive disposition to live with others.

LEARNER OBJECTIVES: Objectives are clearly outlined in the manuals before each lesson in two categories, based on Bloom's *Taxonomy of Educational Objectives:* content objectives, which refer to generalizations, concepts, and basic knowledge that has to be mastered by the learner; and formal objectives, which describe what the child will know or be able to do as a result of the learning experience. For example (from level five, unit 13): content: "Japan is an island country composed of innumerable islands (more than a thousand)"; formal: "To possess functional information about the extension, population, and physical characteristics of Japan." Several objectives of each type are formulated for each unit.

Second Instructional Design Construct: Contents

SCOPE: The content is treated in great depth and breadth via an interdisciplinary approach to social science, encompassing geography, history, social and cultural anthropology, and sociology. The first cycle (1-5) follows a line of progressive expansion from the immediate community (1-3), to national Spanish communities (4), to representative communities throughout the world. History and geography are the two main sections of levels 6-7. Level 6 addresses humans and their environment and the regional communities of Spain, while level 7 deals with the continents and their communities. The final level expands all of the sociocultural characteristics and applies them to a worldwide situation.

SEQUENCE: The sequence, as specified by the developer, is based on a developmental view of the learning process. It has been sequenced according to child development and the process of children's discovery of their social reality in terms of their own needs and interests. As an examination of the scope indicates, some topics begun in the elementary levels are treated again much later, a spiral route. Entry and exit points are based on grade level and all students are to progress at the same rate. Recycling is provided for individuals who have "failed" to fulfill the objectives adequately, and branching activities are supplied for enrichment.

Third and Fourth Instructional Design Constructs

METHODOLOGY: The developers supply in the manuals clear, descriptive, and useful directions for the use of these materials. Classwork takes the form of three separate avenues: group work, team work, and individual work. Each unit is accompanied by specific directions. Included are alternatives for students who express difficulty with group work, and branching activities to allow for creative expression. The method reflects a discovery approach.

MEANS OF EVALUATION: The developers stress that evaluation is part of the learning process and not a separate entity with its own end. Learner progress is measured via special exercises which appear in the workbooks (termed, collectively, "internal evaluation") and as part of the Santillana Evaluation System. SES is a series of criteria-referenced tests which provide continuous assessment of learner progress for the *Senda Reading Series* and the mathematics, social science, and natural science programs. Roughly five SES tests (six, including the final) are provided for each subject area on each level. SES tests are a unit of study in themselves, complete with objectives. Two sets of guides, one for all the SES tests and another for the final evaluations, are also available.

Both forms of evaluation supply valuable information which the teacher can use in deciding which, if any, branching or recycling activities can be used to the learners' advantage. The evaluation materials are quite congruent with the other design constructs.

Congruence of Four Instructional Design Constructs

SUMMARY: The design constructs appear to be congruent.

Additional Considerations

PHYSICAL DESCRIPTION: The complete series consists of seven hardcovered *Consultores* (textbooks); eight softcovered consumable workbooks; eight consumable workbooks for the teacher, also softcovered; and eight softcovered teacher's manuals. The illustrations are relevant and helpful to the discussion of the topics.

The Santillana Evaluation System is composed of eight softbound guides, eight guides for the final tests, and a consumable test package for each level (which consists of tests for all four subject areas, the final tests for those areas, and record-keeping cards). If teachers wish to use the testing materials for only one of the areas, for example, they must purchase the entire system. The internal evaluation materials are, however, incorporated in the workbooks.

SOURCE: Spanish materials developed abroad without adaptation for use in the United States.

COMMUNITY ACCEPTANCE/FAIRNESS: The workbook for level one on pages 4, 10, 18, 39, and 86 depicts women in traditional roles as homemakers, secretaries, and nurses.

Overall Assessment and Recommendations

SUMMARY: This program is extremely comprehensive. The teacher's manuals, in particular, are deserving of a special mention of merit. However, the superiority of its design is not complemented by an adequate degree of relevance to Spanish-speaking populations living in the United States. One analyst feels that with supplementation and minor adaptation this program could be used effectively in bilingual programs in the United States. All analysts agree that the language is quite advanced, and suggest that, if selected for a bilingual program, the books be used one or two years ahead of the grade levels specified by the developers.

NATURAL AND SOCIAL SCIENCES PROGRAM IV (DOMINICAN EDITION)

Identification and Background

TITLE: Natural and Social Sciences Program IV (Dominican Edition)

AUTHORS: Germesinda Llaverías et al.

PUBLISHER: Santillana, S.A.; Elfo 32; Madrid-27 (distributed by Santillana Publishing Company; 575 Lexington Avenue; New York, NY 10022)

COPYRIGHT: 1974

MEDIUM: print (textbooks)

COMPONENTS:

Diploma 2: ciencias naturales y sociales
Diploma 3: ciencias naturales y sociales
Diploma 4: ciencias naturales
Diploma 4: ciencias sociales
Diploma 5: ciencias sociales
*Diploma 6: ciencias sociales**

*authors of sixth level: Ramon Tejada Castillo et al.

SUBJECT AREAS: natural and social sciences

CURRICULUM ROLE: basic

GRADE LEVELS: 2-6

POPULATION CHARACTERISTICS: Not specified. (It is implied that this material is intended for use with a Dominican population.)

RESEARCH AND DEVELOPMENT EVIDENCE: None specified.

LINGUISTIC CONTENT: Uses language understood by most Spanish-speakers worldwide.

LANGUAGE LEVEL: 2-6, advanced

179

First Instructional Design Construct: Intents

DEVELOPER'S RATIONALE: (implied) To present an integrated natural and social sciences program.

LEARNER GOALS: (implied) (1) To learn basic concepts in natural science; (2) To gain historical and sociological perspective relative to the Dominican Republic; and (3) To instill cultural pride.

LEARNER OBJECTIVES: Left entirely to the user.

Second Instructional Design Construct: Contents

SCOPE: Selected topics in biology, botany, zoology, geology, geography, and citizenship, and others in Dominican, Latin American, and world history are handled in detail. Activities are suggested with each lesson to reinforce concepts.

SEQUENCE: Topics are repeatedly touched upon throughout the series. It is important to preserve grade sequence as the material increases in complexity; however, one analyst feels units within each book may be interchanged without changing the learning process. All students begin at the same point and follow a linear sequence.

180

Third and Fourth Instructional Design Constructs

METHODOLOGY: The methodology is not described by the developers. There are neither teacher's guides nor introductions to the textbooks.

It can be inferred from the materials that the methodology is didactic. Presentations are followed by varying types of activities. Learners are asked to inquire into and further investigate the main concepts of each lesson. One such activity directs the students to go out into the community to obtain information. Where appropriate, science experiments are outlined.

MEANS OF EVALUATION: The developer does not provide procedures or recommendations for assessing learner performance.

Congruence of Four Instructional Design Constructs

SUMMARY: A statement of intents, a description of methodology, and materials for evaluation are all lacking.

Additional Considerations

PHYSICAL DESCRIPTION: The program consists of six softcovered student textbooks. The illustrations are colorful and helpful to the textual descriptions.

SOURCE: Spanish materials developed abroad without adaptation for use in the United States.

COMMUNITY ACCEPTANCE/FAIRNESS: In illustrations which depict people, few are women. The females that are shown appear in traditional roles, e.g., page 104 of book two.

Overall Assessment and Recommendations

SUMMARY: The practice of integrating social science and natural science subject areas is not at all common in the United States.

The program is very culturally relevant to Dominican learners in the Dominican Republic. One analyst feels it can be used effectively with a Dominican population in the United States as a basic science series and supplemental social science series. Another analyst finds this material inappropriate for use outside the Dominican Republic and irrelevant to the lifestyle of the Dominican learner living in the United States. The absence of instructions for use and of evaluation materials reflects weakness in design.

NOSOTROS Y LOS NUMEROS

Identification and Background

TITLE: Nosotros y los Números

AUTHORS: Florentino Rodao Yubero et al.

PUBLISHER: Editorial Luis Vives; Zaragoza, España (distributed by Anaya-Las Americas Spanish Book Center; 152 East 23rd Street; New York, NY 10010)

COPYRIGHT: 1972-73

MEDIUM: print (textbooks, consumable text/workbooks, and consumable workbooks)

COMPONENTS:

*Nosotros y los números 1 a-c** (text/workbooks)
*Nostros y los números 2-6, 7-8** (textbooks)
*Fichas de trabajo individualizado 2-6, 7-8** (workbooks)
*Guía del profesor 1-8** (teacher's guides)
*Fichas clave 2-6, 7-8** (answer books)

* not available for analysis

SUBJECT AREA: mathematics

CURRICULUM ROLE: basic

GRADE LEVELS: 1-8 (for use in Spain)

POPULATION CHARACTERISTICS: Not specified.

RESEARCH AND DEVELOPMENT EVIDENCE: None specified.

LINGUISTIC CONTENT: Uses language understood by most Spanish-speakers worldwide.

LANGUAGE LEVEL: 1-8, advanced.

193

First Instructional Design Construct: Intents

DEVELOPER'S RATIONALE: The implication is that this series has been developed as a basic mathematics program, which emphasizes the learning of mathematical processes and which closely follows the guidelines established by the Minister of Education and Science in Spain.

LEARNER GOALS: (implied) To develop observation and reasoning abilities that will help the learner acquire mathematical concepts and develop mathematical skills.

LEARNER OBJECTIVES: Not stated in materials available for analysis.

Second Instructional Design Construct: Contents

SCOPE: Emphasis is placed on awareness and understanding of topics, such as mathematical structures, systems of numeration, different types of numbers, operations and properties of whole numbers, negative numbers, fractions, geometry (angles, lines, polygons, and related concepts), measurement, computational skills, decimals, and money. Aforementioned topics are only the most general categories. Both concepts and skills are covered in increasing depth.

SEQUENCE: The sequence of the materials is based on the interrelationship of concepts and the complexity thereof. All learners enter and exit at the same points. Advance organizers are used to prepare learners for future topics. Recycling constitutes review of the material covered and retaking the corresponding self-evaluation test.

194

Third and Fourth Instructional Design Constructs

METHODOLOGY: Since the teacher's guides were not available to the analysts, the following observations are based on inferences from the materials and introductory remarks in the student materials. Although some remarks refer specifically to one level, others have broader implications and can be found or are implied in all levels examined.

Deductive processes are not the sole modes of presentation, but they are used frequently, especially when the materials deal with abstract concepts. On the sixth level, for example, model problems are intentionally excluded so that learners can combine data at their disposal with their own strategies to find solutions. Models are available, in the event they are needed, in the back of the workbook.

In the fifth-level textbook, the authors claim that the presentation of each concept should correspond to the following structure: association of previously learned and new concepts; observation of different examples of what is to be learned so that the learners will be able to reconstruct necessary processes; completion of exercises which will help learners to discover solutions and to solve problems; and reflection on what has been learned, in order to provide opportunities for expression of thoughts, to develop the powers of reasoning, and to gain experience in analysis.

Several pages of workbook exercises accompany each unit. The fourth through sixth levels have additional exercises and questions, to be completed during the presentation, necessary to the acquisition of the concept. Level-two and -three textbooks are more expository, and it appears such exercises would have to be developed by the teacher.

MEANS OF EVALUATION: The authors provide self-evaluation worksheets to be completed after several units. Answers are supplied on the pages immediately following; learners are to correct their own work, interpreting results following these guidelines:

- sufficient: Half the items must be answered correctly; the student may move on.
- repeat: Less than half the items are answered correctly; the student is to review the units covered and retake the test.
- good: More than half of the items are answered correctly; the student may move on.
- outstanding: all items are answered correctly; the student may move on.

Congruence of Four Instructional Design Constructs

SUMMARY: The means of evaluation, as described above, will not supply the teacher with information regarding the efficiency of the other design constructs or what can be done to correct learner difficulties.

Additional Considerations

PHYSICAL DESCRIPTION: Important points are highlighted in boldface type. Illustrations are colorful and helpful, but at times there are too many crowded on a single page. All materials are softcovered. Worksheets are designed to be removed and placed in a looseleaf binder; the bindings of the workbooks consequently lack strength.

SOURCE: Spanish materials developed abroad without adaptation for use in the United States.

COMMUNITY ACCEPTANCE/FAIRNESS: Spanish currency and the exclusive treatment of the metric system are topics which are designed to be used with learners in Spain. No black persons are depicted in the illustrations.

ACCURACY: Division brackets are, in terms of the U.S. convention, bizarre, i.e., $15\overline{)\begin{matrix}3\\5\end{matrix}}$ as opposed to $3\overline{)\begin{matrix}5\\15\end{matrix}}$.

Overall Assessment and Recommendations

SUMMARY: With minor adaptation in the material and the linguistic content, this series can be effectively used in bilingual bicultural programs in the United States. The material may, however, be difficult for U.S. learners and may warrant use above the recommended grade levels.

There is one major problem with the instructional design in that the evaluation construct neither measures learner progress nor signals learner difficulty adequately. Perhaps teacher examination and correction would rectify this situation. The content, on the other hand, is comprehensive and well organized, and most concepts are continually expanded. This seems to be a valuable modern mathematics program. An examination of the teacher's guides, which the analysts did not make, is recommended.

NUESTRO MUNDO

Identification and Background

TITLE: Nuestro Mundo (Alvarez social/natural science series)

AUTHORS: Antonio Alvarez Pérez et al.

PUBLISHER: Editorial Muñón, S.A.; Plaza Mayor, 7; Vallodolid, España (distributed by Anaya-Las Americas Spanish Book Center; 152 East 23rd Street; New York, NY 10010)

COPYRIGHT: 1971-73

MEDIUM: print textbooks and consumable workbooks)

COMPONENTS:

Nuestro mundo 1-5 (textbooks, integrated natural/social science)
*Nuestro mundo: sociedad 6, 7** (textbooks, social science)
*Nuestro mundo: naturaleza 6-7** (textbooks, natural science)
Fichas de trabajo 1-5 (workbooks, integrated natural/social science)
*Fichas de trabajo: sociedad 6, 7** (workbooks, social science)
Fichas de trabajo: naturaleza 6-7 (workbooks, natural science)
*Guía: sugerencias didácticas 1-5**, *6-7** (teacher's guides)
*Control de evaluación 1-5, 6-7** (answer books)
*Fichas de desarrollo 1-7*** (workbooks for advanced learners)

*not available for analysis

**The 1-5 guides, as well as the *Fichas de desarrollo 3-7* are designed to be used simultaneously with the A. Alvarez et al. *Nueva Matemática, Lengua Española,* and the *Nuestro Mundo* social/natural science series.

SUBJECT AREAS: social and natural sciences

CURRICULUM ROLE: basic

GRADE LEVELS: 1-7 (for use in Spain); 2-8 (as assessed by analysts for use in the United States)

POPULATION CHARACTERISTICS: Not specified.

RESEARCH AND DEVELOPMENT EVIDENCE: None specified.

LINGUISTIC CONTENT: Uses language understood by most Spanish-speakers worldwide. Syntax and vocabulary are characteristic of usage in Spain.

LANGUAGE LEVEL: 2-8, advanced.

First Instructional Design Construct: Intents

DEVELOPER'S RATIONALE: "Inspired by the noble desire to contribute to the efficiency of the educational process... the team of ALVAREZ authors have dedicated themselves to the incorporation of real experiences in all scholastic areas, the fruit of which is the didactic material that is offered to our friends [learners]."

LEARNER GOALS: (implied) To provide learners with an understanding of social and natural environs that both involve and surround them.

LEARNER OBJECTIVES: General objectives for each week's lessons are stated in teacher's guides. Objectives from level three, week four, are:

"formative: to develop favorable attitudes toward knowledge of reptiles; to make sure the learners notice the characteristics that distinguish this type of animal; to develop a desire to expand their knowledge and satisfy their curiosities related to reptiles; and to become accustomed to establishing analogies and differences among animals which are studied.

"informative: reptiles (elementary monographic study of lizards as a model type of reptile; outstanding characteristics and way of life); the green lizard (snakes, vipers, and their notable characteristics); and the crocodile, the turtle (usefulness of reptiles)."

Second Instructional Design Construct: Contents

SCOPE: The first two levels do not exhibit noticeable separations between the social science and natural science sections of the books as do levels three through five. Levels six and seven show an even further division, in that there are separate social science and natural science workbooks. In both areas, the authors deal first with the child's immediate environment before enlarging concepts and expanding implications. These topics are treated with increasing specificity and detail throughout the program. Social science: family, friends, school, church, town, cities, country, occupations related to environment, commerce, transportation, communication, Europe, the Americas. Natural science: seasons, diseases, fire, water, weather, geography, space, atmosphere, light, sound, electricity, machines and tools, animals (types, environments, microorganisms), plants (types, food, seed, flower), human beings (senses, parts, systems, nutrition). Topics related to Spain: geography, plant life, animal life, agriculture, mines, industry, commerce, population, history, tourism, Spanish saints, painters, writers, sculptors, monuments, Christianity.

SEQUENCE: Entry and exit points are predetermined for all learners. After completing the work pages, however, learners may work on the prepared branching materials, *Fichas de desarrollo,* or on additional teacher-made activities. The material is presented in increasing complexity and detail in 32 weekly units.

Third and Fourth Instructional Design Constructs

METHODOLOGY: The teacher's guides give the user instructions for the presentation of material. Class, small group, and individual activities are described.

Any available visuals or manipulatives should be readily accessible to the learners working in the workbooks. Generally, there are observation, manipulation, and intellectual activities. If students finish the required activities ahead of time, they are encouraged to investigate and elaborate on another topic that need not be directly related to the topic being studied. If the topic coincides, the *Fichas de desarrollo* may be used.

Class activities involve discussions of completed individual activities, use of the textbook for reinforcement of concepts in the form of reading and further discussion of graphics, and teacher demonstrations, e.g., pointing out the parts of a real flower.

Small group activities usually focus on more stimulating experiences such as making bulletin boards or work which is done in part outside the classroom, e.g., collecting seeds or investigating the kinds of fish sold at the local market.

MEANS OF EVALUATION: The developers state the purpose of evaluation is to provide information relevant to the degree to which the students have achieved the objectives; to how and to what extent desired changes in behavior are made manifest; to modification of the teaching methodology and instructional materials; and to the efficiency of the program itself. Furthermore, the need for placement tests and continuous assessment is expressed.

Recommendations for handling evaluation, however, are suggestive and lack substance, for example, systematic observation, analysis of classwork, planning of situations in which the student must apply knowledge, questions, and conversation.

At the bottom of the last workpage of the week, there are two boxes. Students place their personal assessment of how well they think they have performed in one box and the teachers, using the *Control de evaluación* answer books to check answers, places his/her assessment in the remaining box based on a seven-point scale. There is no indication of how results are to be interpreted or used.

Congruence of Four Instructional Design Constructs

SUMMARY: The developers propose a rationale for the incorporation of a means of evaluation which is perfectly sound and related to the other constructs; yet they have neglected to develop one which will adequately satisfy the stated purposes.

Additional Considerations

PHYSICAL DESCRIPTION: Levels one through five of the guides and three through seven of *Fichas de desarrollo* are designed to be used with the ALVAREZ mathematics, social/natural science, and language arts series simultaneously. All materials are softcovered. Workbooks are consumable. Illustrations are in color.

SOURCE: Spanish materials developed abroad without adaptation for use in the United States.

COMMUNITY ACCEPTANCE/FAIRNESS: Black persons are not depicted in the illustrations. Women are frequently shown engaged in domiciliary activities. Religious themes are apparent throughout. Books four through six concentrate heavily on the history of Spain and the national implications of previously treated topics.

ACCURACY: Although hardly serious, the picture of a pine tree on page 18 of book one does not appear to be a pine.

Overall Assessment and Recommendations

SUMMARY: The reasons the analysts have labeled this series a poor choice for bilingual programs are not derived from the instructional design, but rather from the severity of the cultural and linguistic implications. Such a word as "bichitos" will undoubtedly offend some Hispanic populations. Spanish currency, references to Franco, patriotism, and civic duties (in Spain), religion, and the structure of the Spanish government will make little sense to the learner living in the United States. Ultimately, all topics are related to Spain, especially in the area of social science.

The content is comprehensive, in spite of how it is handled. There is flexibility in the route, and the methodology allows for several modes of interaction. In fact, the only design construct not deserving of praise is the means of evaluation.

NUESTRO MUNDO: ESTUDIO DE LA NATURALEZA

Identification and Background

TITLE: Nuestro Mundo: Estudio de la Naturaleza

AUTHOR: Elio Arrechea Rodríguez

PUBLISHER: Cultural Venezolana, S.A.; Caracas, Venezuela

COPYRIGHT: 1966-72

MEDIUM: print (textbooks and consumable text/workbooks)

COMPONENTS:
Nuestro mundo 1 (text/workbook)
Nuestro mundo 2-6 (textbooks)

SUBJECT AREA: natural science

CURRICULUM ROLE: basic

GRADE LEVELS: 1-6

POPULATION CHARACTERISTICS: Not specified.

RESEARCH AND DEVELOPMENT EVIDENCE: None specified.

LINGUISTIC CONTENT: Uses language understood by most Spanish-speakers worldwide.

LANGUAGE LEVEL: 1-6, advanced.

First Instructional Design Construct: Intents

DEVELOPER'S RATIONALE: (implied) To present a natural science course for grades one through six.

LEARNER GOALS: Not stated.

LEARNER OBJECTIVES: Unit objectives (level one, unit two): "To appreciate nature through observation; to become familiar with the general appearance and habits of some animals; to know how to care for animals; to identify some useful animals and to know how to protect them; and to identify harmful animals and to know how to exterminate them."

Lesson objectives (level one, unit two, lesson four): "To illustrate ways in which animals move; to develop the ability to understand similarities and differences in locomotion; to develop abilities to observe, compare, and identify."

The objectives above are examples of how objectives are stated in level one. Objectives are not stated in levels two through six.

Second Instructional Design Construct: Contents

SCOPE: The material is arranged in a spiral sequence. The first three books, for example, have four units with identical names: Children and Their Needs; Children and Animals; Children and Plants; Children, the Earth, and the Universe. Basically, the same units appear in levels four through six with additional units dealing with the phenomena of nature, physics, and chemistry. More specifically, the areas of study include anatomy, physiology, hygiene, zoology, mineralogy, geology, geography, agriculture, biology, botany, physics, and chemistry. On each succeeding level, topics are treated more elaborately.

SEQUENCE: It can be inferred that entry and exit points are fixed for all learners and that the route is linear.

Third and Fourth Instructional Design Constructs

METHODOLOGY: The activities, the developer claims in level three, serve the following purposes: verification of learning, observation, investigation, experimentation, construction, completion of projects, directed activities, amplification, and reading.

The only book which supplies any direction for teaching at all is the first. Purposes, procedures, and activities are described for each workpage. In all other books, however, learner activities are described for both teacher and learner at the end of each chapter, e.g., from level four: "Cut out pictures of butterflies and enter them in your album. How do butterflies eat? Make a list of harmful larvae. Write an article for the class newspaper about 'the silk industry.' Draw a butterfly from your area." In the words of the developer, "For obvious reasons..." a description of the methodology and/or a teacher's guide are not necessary for any level other than the first. The methodology appears to be didactic, although opportunities for drawing, collecting, and experimenting are available.

MEANS OF EVALUATION: In book three, the author states: "Learning is verified by observation, investigation, and experimentation: bases of the teaching of natural science in elementary school." Assessment activities are not, however, discernible.

Congruence of Four Instructional Design Constructs

SUMMARY: The developer has failed to develop a means of evaluating learner progress, as well as to state goals. Objectives and guidelines for use are limited to the first book and a very brief description in the third.

Additional Considerations

PHYSICAL DESCRIPTION: All books are softcovered. Although space is provided for learners to respond to questions, responses could be recorded on paper, making only book one consumable. Illustrations are numerous and colorful, but not always clear.

SOURCE: Spanish materials developed abroad without adaptation for use in the United States.

COMMUNITY ACCEPTANCE/FAIRNESS: Only white children are depicted.

Overall Assessment and Recommendations

SUMMARY: Analysts do not recommend this program. The lack of stated intents for most levels, of teacher's guides, and of evaluation procedures leaves learning undefined, undescribed, unmeasurable.

NUESTRO PLANETA

Identification and Background

TITLE: Nuestro Planeta

AUTHORS: Ángel Sabugo Pintor et al.

PUBLISHER: Editorial Everest; Avenida San Juan de Sahagún, 3; Apartado 339; León, España (distributed by Anaya-Las Americas Spanish Book Center; 152 East 23rd Street; New York, NY 10010)

COPYRIGHT: 1971-73

MEDIUM: print (textbooks and consumable workbooks)

COMPONENTS:

Nuestro planeta 1-5 (integrated social/natural science textbooks)
*Nuestro planeta 6, 7-8** (social science textbooks)
*Materia y energía 6-8** (natural science textbooks)
Fichas nuestro planeta 1-5 (integrated social/natural science workbooks)
*Fichas materia y energía 6-8** (natural science workbooks)
*Fichas nuestro planeta 6, 7-8** (social science workbooks)
*Libro guía 1-8** **(teacher's guides)

*not available for analysis
**It can be inferred from the list of components in the workbooks that there is a single teacher's guide for each level to be used in conjunction with the Editorial Everest language, mathematics, social/natural science, art, religion, and (on levels 5-8) foreign language series.

SUBJECT AREAS: social and natural science

CURRICULUM ROLE: basic

GRADE LEVELS: 1-8 (for use in Spain); 3-10 (as assessed by analysts for use in the United States)

POPULATION CHARACTERISTICS: Not specified.

RESEARCH AND DEVELOPMENT EVIDENCE: None specified.

LINGUISTIC CONTENT: Uses language understood by most Spanish-speakers worldwide. Some lexical items are characteristic of usage in Spain.

First Instructional Design Construct: Intents

DEVELOPER'S RATIONALE: (implied) To present an integrated natural and social science program that is amenable to Spain's Ministry of Education.

LEARNER GOALS: (implied) To develop a basic understanding of concepts related to the study of the natural and social sciences; to develop an awareness of, and positive attitude toward, Spain's social and political institutions and historical background.

LEARNER OBJECTIVES: Not specified in materials available for analysis.

Second Instructional Design Construct: Contents

SCOPE: Materials for levels one through five are integrated, whereas levels six through eight have separate workbooks and textbooks for the areas of social and natural science. Topics are covered lightly on levels one through four and in increasing depth from level five on. The most general topics related to the area of natural science are: earth and space science, living things (needs and relation to the environment), plants, animals, human beings (the body, senses, systems, reproduction), microorganisms, machines and tools, and matter and energy. General social science topics include: a child's immediate environment (family, school, friends), occupations related to the environment, transportation, communication, recreation, commerce and industry, Europe, Asia, Africa, America, polar regions. Topics which are dedicated specifically to Spain are: agriculture, livestock, geography, industry, commerce, art, fishing and hunting, population, past inhabitants, government and relations to other countries, monuments, heroes, saints, and painters. In addition, no less than half of the sixth-level social science text is dedicated purely to the history and culture of Spain.

SEQUENCE: The learning route is linear and chronological. All learners are to enter and exit at the same points, and the material is arranged in an order of increasing complexity. There are three worksheets for each unit.

Third and Fourth Instructional Design Constructs

METHODOLOGY: The teacher's role is unclear; however, judging from the materials available for analysis, the learner's role is passive. The methodology is didactic, and when the authors mention discovery in the introductions to the textbooks, they are referring to looking up information contained in the textbooks.

In the workbooks, the learners are directed first to read the textbook and then to complete the worksheets. Worksheets A, B, and C increase in difficulty, and the learners are encouraged to do all three. Although many kinds of exercises are included in the workbooks, learners are to complete them by themselves.

On the basis of the materials available for analysis, the nature of the group presentation, if indeed there is one, also remains unclear.

MEANS OF EVALUATION: The materials available for analysis do not contain accommodations for measuring learner progress.

Congruence of Four Instructional Design Constructs

SUMMARY: In the materials available for analysis, intents are not specified and there is no way to assess learner performance.

Additional Considerations

PHYSICAL DESCRIPTION: Textbooks are softcovered with color photographs (some blurred) and other illustrations and graphics. Workbooks take the form of consumable two-hole binder fillers. The sixth-level social science textbook contains a chronological index of Spanish kingdoms.

SOURCE: Spanish materials developed abroad without adaptation for use in the United States.

COMMUNITY ACCEPTANCE/FAIRNESS: Girls are involved in passive play and boys in active play, e.g., page 84, level one. On pages 89-92 of level one, the father of a family is said to work and provide for the family, while the mother, who "... also earns money sometimes," takes care of the house. Religious themes are an integral part of the reading material. The majority of the people depicted are white and belong to a middle-class socioeconomic group.

Overall Assessment and Recommendations

SUMMARY: The developers mention that the learning activities involve individualization, creativity, and initiative. However, these terms hardly apply to instructional materials which require students to read the textbook and complete the workbook exercises chapter after chapter. Combined with the lack of both a clearly defined teaching methodology and a method of assessing learner progress, this adds up to a very poorly designed instructional program. Analysis of the teacher's guides, however, might change this assessment.

Invariably, the emphasis is on Spain's geography, culture, history, and political, social, and religious institutions, which have no relevance to learners growing up in the United States. In spite of the comprehensive coverage in the area of natural science, this series is highly inappropriate for use in the United States.

NUEVA MATEMÁTICA

Identification and Background

TITLE: Nueva Matemática

AUTHORS: Antonio Alvarez Pérez et al.

PUBLISHER: Editorial Muñón, S.A.; Plaza Mayor, 7; Valladolid, España (distributed by Anaya-Las Americas Spanish Book Center; 152 East 23rd Street; New York, NY 10010)

COPYRIGHT: 1971-73

MEDIUM: print (textbooks and consumable workbooks)

COMPONENTS:

*Nueva matemática 1-6, 7** (textbooks)
*Fichas de trabajo 1-6, 7** (workbooks)
*Fichas de desarrollo 1-7*** (workbooks for advanced learners)
*Guía: sugerencias didácticas para el profesor 1-5**, 6-7** (teacher's guides)
*Control de evaluación 1-5, 6-7** (answer books)

*not available for analysis
**The 1-5 guides, as well as the *Fichas de desarrollo 3-7*, are designed to be used simultaneously with the A. Alvarez et al. *Nueva Matemática, Lengua Española,* and *Nuestro Mundo* social/natural science series.

SUBJECT AREA: mathematics

CURRICULUM ROLE: basic

GRADE LEVELS: 1-7 (for use in Spain); 2-8 (as assessed by analysts for use in the United States)

POPULATION CHARACTERISTICS: Not specified.

RESEARCH AND DEVELOPMENT EVIDENCE: None specified.

LINGUISTIC CONTENT: Uses language understood by most Spanish-speakers worldwide. Some vocabulary is characteristic of usage in Spain.

LANGUAGE LEVEL: 2-8, advanced.

199

First Instructional Design Construct: Intents

DEVELOPER'S RATIONALE: "Inspired by the noble desire to contribute to the efficiency of the educational process... the team of ALVAREZ authors have dedicated themselves to the incorporation of real experiences in all scholastic areas, the fruit of which is the didactic material that is offered to our friends [learners]."

LEARNER GOALS: The goals of this program are: the development of spatial perspective – distance, proportion, etc.; graphic representation and construction; acquisition of a basic vocabulary for mathematical expression; mastery of basic computational skills; the ability to create formal structures; the symbolic representation of problematic situations; the ability to read and express quantitative data; the utilization of systems of measure; and the use of techniques to locate information related to mathematics.

LEARNER OBJECTIVES: There are 32 sets of objectives – one for each week's lessons – listed in the guides. The following are examples.

"global objectives: To relate the topic 'the flower and the fruit' with the operation of multiplication. To develop the skills for more significant applications of multiplication.

"specific objectives: (formative) To develop mental calculation and the ability to carry out multiplication operations... the ability to apply the associative property to the product of several factors. (informative) The idea of association... various ways of applying the associative property, multiplication of numbers ending in zero... multiplication of equal factors..."

Second Instructional Design Construct: Contents

SCOPE: These general topics are covered in detail throughout the series: spatial relationships, computational skills, basic concepts of geometry, decimals, fractions, measurement (metric system), numerical operations with sets, relationships among sets, types of sets, and rational numbers. An effort has been made to relate topics to other curriculum areas being studied.

SEQUENCE: Concepts are developed from simple to complex within each level and throughout the series. Entry and exit points are fixed, and branching for more advanced learners is provided in the form of *Fichas de desarrollo.* Each numbered workpage is accompanied by an additional workpage bearing the same number plus a subscript, e.g., 10_2. These pages are to be used for recycling and reinforcement purposes. The material is divided into 32 systematically presented weekly units.

200

Third and Fourth Instructional Design Constructs

METHODOLOGY: The approach to modern mathematics is not such that elements of traditional mathematics which have value in everyday life have been abandoned.

The developers suggest that before students begin the exercises, teachers should demonstrate operations similar to those that will be completed, keeping in mind their role of proportioning the assistance each student needs without inhibiting freedom of thought and spontaneity. The analysts report evidence of both didactic and more deductive methodologies. Developers state, "We have intentionally introduced some exercises that can be resolved in several ways, with the object of inspiring creativity and discovery of original solutions."

Learners interact on several planes. Class, small group, and individual activities are part of the normal learning route. Branching materials provide activities which permit reciprocal correction and interchange of opinions and possible ways to solve the same problem. Introductory remarks and weekly unit descriptions in the guides are, for the most part, quite helpful.

MEANS OF EVALUATION: The developers state that evaluation is to yield information relevant to the degree to which students have achieved the objectives; to how and to what extent desired changes in behavior are made manifest; to modifications of teaching methodology and instructional materials; and to the efficiency of the program itself. Furthermore, the need for placement tests and continuous assessment is expressed.

Recommendations for handling evaluation are suggestive and lack substance. For example: systematic observation, analysis of classwork, planning of situations in which the student must apply knowledge, questions, and conversations.

At the bottom of the last workpage of the week there are two boxes. Students place their personal assessment of how well they think they have performed in one box, and the teacher, using the *Control de evaluación* answer books, places his/her assessment in the remaining box based on a seven-point scale. Those who achieve the upper two points of the scale, based on the teacher's assessment, may begin working on the branching materials.

Congruence of Four Instructional Design Constructs

SUMMARY: The type of evaluation construct described above is not consistent with the stated rationale for providing one. Insight into the effectiveness of the other design constructs is not a product of this means of evaluation.

201

Additional Considerations

PHYSICAL DESCRIPTION: Levels one through five of the guides and three through seven of the *Fichas de desarrollo* are designed to be used with the ALVAREZ mathematics, social/natural science, and language series simultaneously. All materials are softcovered. Workbooks are consumable. At times, particularly on the lower levels, the pages appear to be crowded with material. There is a possibility that the accompanying workbooks may cause confusion for the learners, since pictorial representations in the workbooks differ somewhat from those in the textbooks.

SOURCE: Spanish materials developed abroad without adaptation for use in the United States.

COMMUNITY ACCEPTANCE/FAIRNESS: Illustrations, for the most part, are limited to white middle-class persons. The only black person analysts found is wearing a grass skirt, carrying a bow and arrow (book four, page 100; book six, page 171).

Cultural representations are relevant to lifestyles in Spain, e.g., Spain's monetary system.

ACCURACY: Throughout the program, the division brackets do not follow the style used in the United States, i.e., $2\overline{)48}$ as opposed to $2\overline{)48}$.

Overall Assessment and Recommendations

SUMMARY: Reactions to this program are mixed. On one hand, the material is not relevant to Spanish-speaking learners living in the United States. The language, especially in the beginning levels, is complex, and students will experience difficulty reading the textbook. The material is based, as are most materials developed in Spain, on E.G.B. guidelines which do not coincide with curriculum design in the United States. And the teaching of the metric system exclusively and Spain's monetary system is of little or no use to the U.S. learner.

On the other hand, the guides are well organized and helpful. With the exception of a poorly developed evaluation construct, the instructional design is solid. Content is comprehensive. Provisions are made for individualization. Several types of interaction are possible, and the methodology, to some extent, is flexible.

One analyst straightforwardly discourages the use of this program, while another states it is simply not highly recommended.

202

NÚMEROS Y FIGURAS

Identification and Background

TITLE: Números y Figuras

AUTHORS: Ángel Sabugo Pintor (director) et al.

PUBLISHER: Editorial Everest; Avenida San Juan de Sahagún, 3; Apartado 339; León, España (distributed by Anaya-Las Americas Spanish Book Center; 152 East 23rd Street; New York, NY 10010)

COPYRIGHT: 1971-72

MEDIUM: print (textbooks and consumable workbooks)

COMPONENTS:

*Números y figuras 1-6, 7-8** (textbooks)
*Fichas de trabajo 1-6, 7-8** (workbooks)
*Ejercicios y problemas 1-6** (supplementary exercise book)
*Libro guía 1-8** **(teacher's guides)

*not available for analysis

**It can be inferred from the list of components in the workbooks that there is a single teacher's guide for each level to be used in conjunction with the Editorial Everest language, mathematics, social/natural science, art religion, and (on levels 5-8) foreign language series.

SUBJECT AREA: mathematics

CURRICULUM ROLE: basic

GRADE LEVELS: 1-8 (for use in Spain)

POPULATION CHARACTERISTICS: Not specified.

RESEARCH AND DEVELOPMENT EVIDENCE: None specified.

LINGUISTIC CONTENT: Uses language characteristic of Spain.

LANGUAGE LEVEL: 1-8, advanced.

203

First Instructional Design Construct: Intents

DEVELOPER'S RATIONALE: (implied) To present an elementary school mathematics program.

LEARNER GOALS: (implied) To learn fundamental skills in mathematics.

LEARNER OBJECTIVES: Considering the materials analyzed, analysts conclude that objectives are left entirely to the user.

Second Instructional Design Construct: Contents

SCOPE: Topics are covered repeatedly throughout the series and each time in increasing complexity and depth. General topics include: sets and set theory, time, money, addition, subtraction, multiplication, division, fractions, measure (metric system only), geometric shapes, concepts of geometry, decimals, base five, base three, symmetry, multiples, square root, and topology.

Números en color, Bloques lógicas, and *Ejercicios y problemas* are suggested supplementary materials.

SEQUENCE: A fixed linear route is implied, with single entry and exit points. Material increases in complexity and moves from concrete to abstract. Advance organizers are used.

204

Third and Fourth Instructional Design Constructs

METHODOLOGY: The only direction given the teacher is that the workbooks are indispensable. Cuisinaire rods are also suggested.

A didactic teaching methodology is inferred by analysts. There appear to be three variations of each worksheet representing varying degrees of difficulty. A more comprehensive description of the teaching methodology may be available in the teacher's guides.

MEANS OF EVALUATION: Judging from the materials available to the analysts, the authors have not developed an instrument for measuring learner progress.

Congruence of Four Instructional Design Constructs

SUMMARY: Because no instructional design is readily evident, on the basis of the materials analyzed, the issue of congruence cannot be considered.

Additional Considerations

PHYSICAL DESCRIPTION: Textbooks are softcovered. A considerable quantity of material is crowded on each page. The workbooks take the form of consumable two-hole binder fillers. Illustrations are orightly colored.

SOURCE: Spanish materials developed abroad without adaptation for use in the United States.

COMMUNITY ACCEPTANCE/FAIRNESS: Cultural content is relevant to Spain, e.g., Spain's monetary system, pictures of Franco, and references to religious holidays.

Overall Assessment and Recommendations

SUMMARY: This series is termed a poor choice by one analyst and unacceptable by another. The instructional design is at best weak, at worst nonexistent. This along with a regional vocabulary and cultural variations lead the analysts to suggest that a more appropriate selection would indeed be in order. Analysis of the teacher's guides might, of course, modify this assessment.

PLAN DE ESTUDIOS PARA NIÑOS DE TEMPRANA EDAD: UN PROGRAMA DE PIAGET

Identification and Background

TITLE: Plan de Estudios para Niños de Temprana Edad: Un Programa de Piaget

AUTHOR: Celia Stendler Lavatelli (a product of Center for Media Development, Inc.)

PUBLISHER: American Science and Engineering, Inc.; 20 Overland Street; Boston, MA 02215 (The publisher is also the distributor.)

COPYRIGHT: 1970-73

MEDIA: print (teacher's guides), manipulatives

COMPONENTS:

Clasificación (kit)
Número, medida, y espacio (kit)
Seriación (kit)
Guía para el maestro (teacher's guide)

SUBJECT AREA: early childhood education

CURRICULUM ROLE: basic

GRADE LEVEL: preschool

POPULATION CHARACTERISTICS: Not specified.

RESEARCH AND DEVELOPMENT EVIDENCE: None specified for Spanish version; however, the developer reports that the English version has been used in pilot programs, at least at the University of Illinois and in public kindergartens in University City, Missouri.

LINGUISTIC CONTENT: Uses language understood by most Spanish-speakers worldwide.

LANGUAGE LEVEL: Preschool, beginner/simple.

First Instructional Design Construct: Intents

DEVELOPER'S RATIONALE: The presentation of a Jean Piaget early childhood program based on three principles: classification; seriation; and number, measurement and space.

LEARNER GOALS: (implied) To offer a cognitive base that will make the preschool learning process more intellectually stimulating, and to develop mental operations to be exercised, as well as language models.

LEARNER OBJECTIVES: Statements made in the materials are very specific performance objectives; for example, the following are samples from page 21 of the teacher's guide.

"MENTAL OPERATIONS
Changing subclasses and different classes of animals into another class. . . comparing the entire class with one of its parts (comparison of the whole and a part). Making comparisons between 'all' and 'some' ('all' parts are animals: 'some' are cats).

"LANGUAGE MODELS
. . . Comparatives: more
. . . Pronouns: all, some."

Second Instructional Design Construct: Contents

SCOPE: The program is divided into three kits: classification; seriation; and number, measurement, and space. Units are comprised of a mixture of operational skills, development activities, and related language development exercises. Syntactical structures (e.g., placement of prepositions, auxiliaries, relative clauses, and temporal connectors) are emphasized. The primary focus of cognitive skills is on the preoperational level of development. Each topic and skill is treated in considerable depth and breadth.

SEQUENCE: The sequencing of the activities is based on a developmental view of the learning process. The entry and exit points are based on teacher judgment. The route of each group (three to four children) is dependent on its performance on preceding tasks. In order to make activities more suitable to the needs of learners, different activities are suggested for each concept which differ in the level of complexity. The last set in each of the series requires more advanced mental operations than the first. However, the first activity in the next set is less complicated than the last ones of the preceding set, eliminating the need for total mastery of one segment before moving to the next.

Third and Fourth Instructional Design Constructs

METHODOLOGY: Activities are to be carried out in groups of three or four. The children work with concrete objects, solving problems designed to aid in the development of cognitive skills and operations. Each activity is accompanied by a description of language patterns and operations to be exercised. This general format is used throughout: (1) the teacher presents the equipment to the child and uses a questioning technique to direct learners toward a predetermined point; (2) the teacher directs learners to change arrangements; (3) comparisons are made between the original order and the transformation; (4) explanations of results are elicited. The teacher does not direct, but does guide, thinking.

A discovery methodology is used, based on deductive reasoning. Detailed instructions are given for each lesson and, in fact, there are two sets: one for the teacher and another for the teacher's aide. The learner takes an active part in making responses, in performing tasks, and in initiating activities.

MEANS OF EVALUATION: Other than teacher observation of group activities, there is no means of assessing learner progress.

Congruence of Four Instructional Design Constructs

SUMMARY: With the exception of the evaluation construct, there is a high degree of congruence among the design constructs.

Additional Considerations

PHYSICAL DESCRIPTION: There are three kits. The classification and the number, measurement, and space kits are cardboard drawer banks framed in steel, which measure 31" x 12" x 18". The seriation kit is contained in a 20" x 12" x 6" cardboard box. The teacher's guide is softcovered and spiral-bound. Manipulatives are colorful and made of wood, plastic, and cardboard. They seem to be durable.

SOURCE: Materials translated from English to Spanish without adaptation.

Overall Assessment and Recommendations

SUMMARY: This curriculum is a good translation of the English edition. It can be used profitably in a bilingual setting if certain corrections are made, e.g., "rojo" does mean "red" in Spanish but "colorado" is most frequently used by U.S. speakers. The teacher should watch for such inaccuracies which are evident in any translation.

More important, this is an excellent Piaget-based early childhood program (although there are those who question whether Piagetian concepts have been faithfully applied), since it is complete, easy to use, and sequenced so as to complement the learning of language with cognitive-skills development, and it provides learning routes of differing degrees of complexity.

REDONDEL

Identification and Background

TITLE: Redondel

AUTHOR: Gloria Roldán

PUBLISHER: Santillana, S.A.; Elfo 32; Madrid-27 (distributed by Santillana Publishing Company; 575 Lexington Avenue; New York, NY 10022)

COPYRIGHT: 1970

MEDIA: print (consumable workbooks), visuals (posters)

COMPONENTS:

Girasol 1-15 (workbooks)
Tecnología educativa preescolar 1 (teacher's guide)
Serpentina 1-9 (workbooks)
Tecnología educativa preescolar 2 (teacher's guide)
Girasol and *Serpentina* posters *(30 each)
Láminas: guía para el maestro (guide for posters)

*The 21" x 31½" posters were not available for analysis; however, all are reprinted in reduced size in the *Láminas: guía para el maestro.*

SUBJECT AREA: preschool program

CURRICULUM ROLE: basic

GRADE LEVELS: ages 4-6, preschool

POPULATION CHARACTERISTICS: Not specified.

RESEARCH AND DEVELOPMENT EVIDENCE: None specified.

LINGUISTIC CONTENT: Uses language understood by most Spanish-speakers worldwide.

LANGUAGE LEVEL: preschool, beginner/simple.

211

First Instructional Design Construct: Intents

DEVELOPER'S RATIONALE: To serve as an instrument that will guide the teacher in the development of the integral personality of the child.

LEARNER GOALS: These goals are discussed in the guides:
(1) To develop the language skills of listening, understanding, and oral expression; (2) To develop sensory habits for better understanding and appreciation of the surrounding world; (3) To develop creativity and imagination to aid the child in developing with sincerity and spontaneity his/her own personality, and to acquire self-confidence; (4) To develop the basic skills of logic, analysis, comparison, and generalization and discrimination; (5) To establish relationships of rhythm and movement and to be able to apply them through physical practice; (6) To acquire initial mathematics concepts (second level, *Serpentina*); and (7) To begin to develop skills in music.

LEARNER OBJECTIVES: Each unit has general objectives pertaining to the theme of the unit. Within the unit, each lesson has specific objectives stated in behavioral terms. The majority of these deal with the affective domain. The developers also provide objectives related to the activities which are described for each poster in the separate *Láminas: guía para el profesor.*

Second Instructional Design Construct: Contents

SCOPE: One skill or area of development is given primary emphasis within each unit, although lessons are divided into specific categories. Though primary emphasis may be given to music skills, for example, this does not necessarily mean language development will be ignored.

The first-year program offers weekly activities in five areas:
(1) development of language (which includes vocabulary development and listening and speaking skills, and incorporates language games, riddles, poetry, stories, acting, puppetry, etc.); (2) sensory development (which deals with the acquisition of concepts through the five senses); (3) art (which encourages creativity and self-expression through the use of several media, and initiates the child into the appreciation of beauty); (4) motor development (which will develop the child's control over his/her body); and (5) music (for both appreciation and participation).

The second-year program includes all the above plus a sixth activity: mathematics concepts.

SEQUENCE: The material increases in complexity from simple to complex and is broken down in the guides into weekly plans. The entry and exit points appear to be fixed for all students.

212

Third and Fourth Instructional Design Constructs

METHODOLOGY: The guides give clear, useful, and detailed directions to accompany each activity. The activities are geared to make children sensitive to their surroundings and to encourage creative expression in all areas. The method is experimental, providing experiences from which the child will learn different things, and it encourages children to relate personal experiences.

(1) for language development: description and discussion of posters, listening to and repeating poetry, language games, story-telling by teacher and children, and dramatization.
(2) for sensory development: numerous sensory experiences.
(3) for art: painting, modeling with different materials, cutting, folding, working with beads, sand, plastic, etc.
(4) for motor development: body expression, body coordination, control of space and time, and rhythmic orientation.
(5) for music: breathing exercises, songs, clapping, and activities with simple instruments.

MEANS OF EVALUATION: The developers have not included tools for evaluation in either the *Girasol* or the *Serpentina* programs.

Congruence of Four Instructional Design Constructs

SUMMARY: There are no problems with congruence among the design constructs beyond the exclusion of evaluation materials.

213

Additional Considerations

PHYSICAL DESCRIPTION: The 24 consumable workbooks are large enough to be easily handled by preschoolers. Illustrations in the workbooks and the posters are colorful, large, and at times quite detailed. The two teacher's guides are softbound and include information regarding skills development, additional references, and very detailed instructions. The guide for the posters includes objectives and activities to be followed with each poster, as well as a copy of each poster in reduced size.

SOURCE: Spanish materials developed abroad without adaptation for use in the United States.

COMMUNITY ACCEPTANCE/FAIRNESS: The use of the second person plural is offered in the dialogs for the dramatizations; however, it can be easily avoided. The materials have an obvious sex bias: In two instances where professions are discussed, women have inferior, traditional roles (*Girasol 8*, p. 2; *Serpentina 9*, p. 5); when exciting things happen, like a plane trip or a TV program-filming, only men are present (*Serpentina 7*, p. 11; *Serpentina 3*, p. 2); only boys go to the circus (*Serpentina 9*, p. 10).

Overall Assessment and Recommendations

SUMMARY: The Redondel Series is extremely well organized and comprehensive. The guides, extensive and detailed, provide for the personal growth of the teacher, in addition to the children, in that they provide ample discussion of child development and bibliographical references in the event further explanations are necessary.

The inclusion of songs, games, poetry, and dramatizations, to mention a few, offers a wide range of cultural aspects and gives the child a comprehensive view of the totality of the Spanish-speaking world. Since most of the language development activities center around oral language, linguistic differences – as seen in the use of the *vosotros* form – can be easily changed. The illustrations, though colorful and stimulating, depict urban settings and rather middle-class environments. One analyst feels that learners not living in large cities will not readily relate to these pictures.

214

SCDC SPANISH CURRICULA UNITS: FINE ARTS STRAND*

Identification and Background

TITLE: SCDC Spanish Curricula Units: Fine Arts Strand*

AUTHORS: Spanish Curricula Development Center; Dade County Board of Public Instruction, Miami, FL

PUBLISHER: Dissemination and Assessment Center for Bilingual Bicultural Education; 6504 Tracor Lane; Austin, TX 78721 (The publisher is also the distributor.)

COPYRIGHT: 1973-75

MEDIA: print (ditto packets), visuals, audiocassettes

COMPONENTS:

Units 1-3, Grade One (one ditto packet per unit)
Units 4-5, Grade Two (one ditto packet per unit)
Fine Arts Supplement, Units 1-5
Teacher's Guide, Units 1-5
*Audiocassettes 1-5***
[*Unit 6, Grade Two,* and *Units 7-9, Grade Three,* scheduled to be available by fall 1976]

**not available for analysis

SUBJECT AREA: fine arts

CURRICULUM ROLE: basic

GRADE LEVELS: 1-2

POPULATION CHARACTERISTICS: Available in Multiethnic, Southwest, Southeast, and Northeast Editions.

RESEARCH AND DEVELOPMENT EVIDENCE: "This *Southwest Edition* is the result of revision of the *Experimental Edition – GE.* It incorporates feedback from field centers across the nation whose pupil populations include children representing a wide range of Spanish backgrounds, but it especially reflects observations made in Southwestern communities by Mexican-Americans in many capacities: teachers, administrators, consultants, field trial coordinators, the Curriculum Adaptation Network for Bilingual Bicultural Education (CANBBE), and members of the SCDC staff. It is our hope that schools using the *Southwest Edition* will continue to provide feedback so materials may undergo further revision based on classroom and community response."

LINGUISTIC CONTENT: Uses language understood by most Spanish-speakers worldwide.

LANGUAGE LEVEL: k-2, intermediate.

First Instructional Design Construct: Intents

DEVELOPER'S RATIONALE: To produce multidisciplinary kits to support bilingual education programs in the elementary grades.

LEARNER GOALS: Both unit and kit goals are presented in the introductory section of the guides, e.g., unit goal: "The Fine Arts Strand of Unit Four revolves around the basic theme: THE NEIGHBORHOOD, and the spiraling questions: WHO THE CHILD IS, WHAT HIS [sic] WANTS AND NEEDS ARE, HOW HE [sic] USES HIS [sic] RESOURCES." Kit goal: "Kit 13 continues refining the auditory perception of the children through song, literature, and motor-rhythmic experiences. Specifically, this kit emphasizes the expressive qualities of music: pitch, timbre, and dynamics. A new sound is introduced, that of the flute. The concept of echo is related to the intensity of sounds, in this way extending the pupil's knowledge of dynamics."

LEARNER OBJECTIVES: Objectives are stated for each lesson under two headings: *Focus* and *Objective.* The following are examples: "Focus: Identifying and mixing primary colors. Objective: The child will be able to identify the primary colors and mix them to obtain secondary colors."

Second Instructional Design Construct: Contents

SCOPE: The overwhelming majority of topics covered, as well as instructional time spent, are addressed to music. A general orientation to these topics would include rhythmic patterns; experiments with sounds, identifying sounds and musical instruments, and melodic contour. These topics are broken down into a multitude of lessons (e.g., "Singing *Me gustan todos* [while] identifying the children in the classroom") and are at times expanded to encompass other disciplines or curriculum areas (e.g., "Singing the song, *Los dias de la semana,* [while]relating the text to the social science theme" or "Singing *Los diez niñitos* to numbers from one to ten"). Drawing, modeling with clay, coloring, and painting are considered, but rarely receive primary consideration.

There is a supplementary book for each unit which suggests how the teacher can carry out the activities in the guides and provides opportunities for the incorporation of related forms of expression.

SEQUENCE: The materials are arranged sequentially. Students, in most cases, need to know the content of the previous kit in order to handle subsequent, more complex kits successfully. There are single fixed entry and exit points and a linear route. Sequence between units is somewhat unclear.

*The five instructional materials strands are science/math, social science, fine arts, language arts, and Spanish as a second language.

Third and Fourth Instructional Design Constructs

METHODOLOGY: Very detailed instructions are provided in Spanish to help the teacher conduct classroom activities. In what appears to have been an effort to conserve space, these instructions are summarized in English. Introductory remarks, on the other hand, are complete in both English and Spanish.

The entire class participates actively in a fairly rigid learning environment. The mode of presentation includes visuals, audiocassettes, and oral presentation by the teacher. Students aim for identical goals and objectives at the same time.

Each instructional unit constitutes a book and contains four kits. A single kit is designed for two to three weeks of instruction.

MEANS OF EVALUATION: Assessment activities "...provide appropriate testing materials by which to measure the knowledge the children have acquired in the instructional activities... [and which] help the teacher determine which concepts or skills in the instructional activities need reinforcement." A chart, presenting the criteria used to develop these activities, contains the basic categories (production of music, recognition of musical elements, and, in unit five only, implementation and interpretation of music elements) and specific concepts/skills to be assessed. A list of the focuses and the page numbers in the guide to indicate when they should be used are included as well. Last, in order to evaluate student responses, and, again, to identify learner weaknesses, record-keeping sheets are available.

Congruence of Four Instructional Design Constructs

SUMMARY: Music, and related topics, seem to be decisively overemphasized in relation to other forms of fine arts expression.

Additional Considerations

PHYSICAL DESCRIPTION: Ditto packets, supplements, and teacher's guides are illustrated in black and white (with some blue in the supplements), softcovered, and spiralbound. Ditto packets and supplements contain all necessary student worksheets; however, some form of reproducing master will have to be prepared by the teacher. The quality of the illustrations is considered fair.

DCABBE also publishes *Cantando y aprendiendo*, a song book for use in conjunction with fine arts strand. Songs are based on the SCDC reading series of the language arts strand, kits two through 11. Several songs are related to the story "Popa Viaja a Puerto Rico" and are particularly relevant to the Puerto Rican learner.

SOURCE: Materials written especially for ethnic-American needs.

COMMUNITY ACCEPTANCE/FAIRNESS: The analysts find that this Southwest Edition does not accurately represent the language or culture of the southwest, albeit it is not offensive. It can be inferred that the Northeast, Southwest, and Southeast versions differ in the lexical items used in the guides, not in the content. Therefore, the aforementioned inconsistencies will inevitably appear. For this reason, in the future, only a Multiethnic Edition will be published which will contain in the guides a listing of lexical variations. Teachers can then make necessary changes as they work through the materials. Illustrations and other nonlexical elements would remain the same.

Overall Assessment and Recommendations

SUMMARY: Teachers need not be fine arts specialists in order to use these materials successfully. It would be helpful, nonetheless, if they could read music and it is necessary that they be fluent speakers of Spanish.

In spite of the fact that there are some songs included that are typical of the southwest, such as *Las mañanitas* and *Chiapanecas*, the lyrics differ greatly from the most commonly known versions in the southwestern United States. In fact, this program, even though it is a Southwest Edition, may be used profitably by any U.S. Spanish-speaking population. Cultural content, as well as vocabulary, are not unilaterally representative of the southwest, but contain a Hispanic flavoring representative of all U.S. Spanish-speaking groups.

SCDC SPANISH CURRICULA UNITS: SCIENCE/MATH STRAND*

Identification and Background

TITLE: SCDC Spanish Curricula Units: Science/Math Strand*

AUTHORS: Spanish Curricula Development Center; Dade County Board of Public Instruction; Miami, FL

PUBLISHER: Dissemination and Assessment Center for Bilingual Bicultural Education; 6504 Tracor Lane; Austin, TX 78721 (The publisher is also the distributor.)

COPYRIGHT: 1973-75

MEDIA: print (ditto packets), visuals

COMPONENTS:

Units 1-3, Grade One (ditto packets)
Units 4-5 Grade Two (ditto packets)
Science/Math Supplement Units 1-5
*Teacher's Guide, Units 1**, 2, 3-4**, 5*
*Unit 6 (Grade Two)** and *Units 7-9 (Grade Three)** scheduled to be available by fall 1976

**not available for analysis

SUBJECT AREAS: mathematics and science

CURRICULUM ROLE: basic

GRADE LEVELS: 1-2

POPULATION CHARACTERISTICS: Available in Multiethnic, Southwest, Southeast, and Northeast Editions.

RESEARCH AND DEVELOPMENT EVIDENCE: "This *Revised General Edition* is the result of revision of the *Experimental Edition– GE*. It incorporates feedback from field centers across the nation [United States] whose pupil populations include children of Mexican-American, Puerto Rican, and Cuban background, as well as children representing a wide range of other Spanish background origins. It reflects contributions of teachers, administrators, consultants, field trial coordinators, the Curriculum Adaptation Network for Bilingual/Bicultural Education (CANBBE), and the members of the SCDC staff who are developing regional editions. It is our hope that schools using the *Revised General Edition* will continue to provide feedback so materials may undergo further revision based on classroom use and community response."

LINGUISTIC CONTENT: Uses language understood by most Spanish-speakers worldwide.

LANGUAGE LEVEL: 1-2, beginner/simple – intermediate.

First Instructional Design Construct: Intents

DEVELOPER'S RATIONALE: (implied) To present a science/mathematics curriculum to be used in bilingual programs.

LEARNER GOALS: Both unit and kit goals are presented in the introductory section of the guides. Examples follow.

Unit goal: "Unit 2 of the Science/Math strand is developed around its main theme: THE FAMILY." Kit goal: "The Science/Math strand of Kit 5 is designed to extend the child's experience with numbers and number combinations learned and to introduce him [sic] to a frame of reference in space, that of direction. Material exposed in earlier kits is revisited for the purpose of extending the child's understanding of a given concept for introducing a new one. The child is provided with experiences in recognizing directions, naming those directions, and representing them. Most of the activities are designed to support the spiraling question of this kit which is: WHO THE CHILD IS."

LEARNER OBJECTIVES: Objectives are stated for each lesson under two headings: *Focus* and *Objective*. Examples:

"Focus: Using the color-coded thermometer to indicate the relative temperatures of pictured items.

Objective: The child will be able to identify which member of the pictured pair is warmer and which is cooler and indicate this on a color-coded thermometer."

Second Instructional Design Construct: Contents

SCOPE: Grade one (mathematics): sets, geometric shapes, number line, ordinal numbers, number experiences, number combinations, three-dimensional shapes, 0-99, days of week, time. Grade one (science): measure, classification, observation, color combinations, temperature, weather, the senses. Grade two (mathematics): histogram, addition, subtraction, number line, maps, money, 0-999, equivalent and nonequivalent sets, systems. Grade two (science): seeds, plants, animals and their young, similarities and differences among living things, senses, observation and inference, weather, sound, matter and energy, heat, electricity, force.

There is a supplement for each unit containing visual aids designed to help the teacher to carry out the activities in the guides.

SEQUENCE: Materials for both areas move from simple to complex. Entry and exit points are fixed for all learners. The route is linear.

*The five instructional materials strands are science/math, social science, fine arts, language arts, and Spanish as a second language.

Third and Fourth Instructional Design Constructs	Additional Considerations
METHODOLOGY: The introductory remarks are in both Spanish and English. Specific lesson instructions are, on the other hand, in Spanish only, with an accompanying summary in English. Some presentations are more expository—i.e., didactic—than others, but the majority of the activities utilize a discovery methodology. Learners are involved actively in the learning process, responding to the teacher and other learners, drawing inferences, participating in experiments and games, and manipulating. Not all manipulatives and visuals are supplied; nevertheless, none would be difficult to find. Lessons are not lengthy and it is likely more than one could be covered in one day. Each instructional unit constitutes one book and contains four kits. A single kit is designed for two to three weeks on instruction. **MEANS OF EVALUATION:** Assessment activities "...provide appropriate testing materials by which to measure the knowledge the children have acquired in the instructional activities...[and which] help the teacher to determine which concepts or skills in the instructional activities need reinforcement." A chart, presenting the criteria used to develop these activities, contains the basic categories (concepts and processes of mathematics and science) and the specific concepts/skills to be assessed. A list of the focuses and the page numbers in the guide to indicate when they should be used are included as well. Last, in order to evaluate student responses and, again, to identify learner weaknesses, record-keeping sheets are available.	**PHYSICAL DESCRIPTION:** Ditto packets, supplements, and teacher's guides are illustrated in black and white, softcovered, and spiralbound. The quality of the illustrations ranges from fair to excellent. Ditto packets and supplements contain all necessary student worksheets; however, some form of reproducing master will have to be prepared by the teacher. The material—organized in kits, units, and grades—tends to be a bit confusing on first examination, but it is unlikely that this could cause serious problems. **SOURCE:** Materials written especially for ethnic-American needs. **TEACHER PREPARATION:** Analysts feel that some form of preservice and/or inservice training would prove helpful. **COMMUNITY ACCEPTANCE/FAIRNESS:** In order to make the Multiethnic Edition more acceptable to all Spanish-speaking populations, a glossary of words, as well as regional variations, has been included. For example: Multiethnic Edition, *rancho;* Northeast Edition, *finca;* Southwest Edition, *rancho;* Southeast Edition, *finca.* It can be inferred that the Editions differ only in the vocabulary used in the guides, not in content. In the future, only Multiethnic Editions will be published with a listing of lexical variations as described above. Teachers can then make necessary changes as they work through the materials, but, of course, illustrations and other nonlexical elements would remain unaffected. **ACCURACY:** One misspelling, of minor consequence, has been reported, viz., "acitvidades" rather than "actividades" on page xv, Unit 2, Grade One.
Congruence of Four Instructional Design Constructs	**Overall Assessment and Recommendations**
SUMMARY: Content lacks full coverage of science concepts; however, there appears to be a basic congruence among intents, contents, methodology, and assessment procedures. 221	**SUMMARY:** Science and mathematics concepts are correlated in many instances; however, one analyst feels there is an overabundance of mathematics concepts relative to science concepts. The step-by-step directions for the presentation of lessons are helpful, yet accommodations for the wide range of learners' abilities are not available. These materials, developed in the United States for all Spanish-speaking populations, have consideration given to regional variations in vocabulary, and the concepts and content presented are comparable to science and mathematics curricula throughout the U.S. 222

SCDC SPANISH CURRICULA UNITS: SOCIAL SCIENCE STRAND*

Identification and Background

TITLE: SCDC Spanish Curricula Units: Social Science Strand*

AUTHORS: Spanish Curricula Development Center; Dade County Board of Public Instruction; Miami, FL

PUBLISHER: Dissemination and Assessment Center for Bilingual Bicultural Education; 6504 Tracor Lane; Austin, TX 78721 (The publisher is also the distributor.)

COPYRIGHT: 1974

MEDIA: print (ditto packets), visuals

COMPONENTS:

Units 1-3, Grade One (ditto packets)
Units 4-5, Grade Two (ditto packets)
Social Science Supplement, Units 1-5
Teacher's Guide, Units 1-5
Unit 6 (Grade Two) and *Units 7-9 (Grade Three)* scheduled to be available by fall 1976

SUBJECT AREA: social science

CURRICULUM ROLE: basic

GRADE LEVELS: 1-2

POPULATION CHARACTERISTICS: Available in Multiethnic, Southwest, Southeast, and Northeast Editions.

RESEARCH AND DEVELOPMENT EVIDENCE: "This *Southwest Edition* is the result of revision of the *Experimental Edition – GE*. It incorporates feedback from field centers across the nation whose pupil populations include children representing a wide range of Spanish backgrounds, but it especially reflects observations made in Southwestern communities by Mexican-Americans in many capacities: teachers, administrators, consultants, field trial coordinators, the Curriculum Adaptation Network for Bilingual/Bicultural Education (CANBBE), and members of the SCDC staff. It is our hope that schools using the *Southwest Edition* will continue to provide feedback so materials may undergo further revision based on classroom use and community response."

LINGUISTIC CONTENT: Uses language understood by most Spanish-speakers worldwide.

LANGUAGE LEVEL: 1-2, intermediate.

*The five instructional materials strands are science/math, social science, fine arts, language arts, and Spanish as a second language.

First Instructional Design Construct: Intents

DEVELOPER'S RATIONALE: The social science strand is child centered, provides for individual and cultural differences, and is designed to help support bilingual education programs.

LEARNER GOALS: Both unit and kit goals are presented in the introductory section of the guides. Examples follow.

Unit goal: "Unit 4 of the Social Science Strand expands the conceptual field of the child to a new dimension: THE NEIGHBORHOOD." Kit goal: "Kit 15 evolves within the theme, WHAT THE RESOURCES OF THE CHILD ARE. Here the child is presented with the opportunity of experiencing a variety of problems motivated by differences and by forces interacting in the neighborhood. As the child learns to recognize and to evaluate some of the differences, he [sic] becomes aware that those differences may be either sources of conflict or resources that help to meet the wants and needs of the neighborhood members. The child is also provided with the opportunity of analyzing alternatives and making decisions as well as that of experimenting [sic] the democratic process as a way to solve conflicts. Within this topic the child is led to recognize the influence that an institution or number of persons joining efforts may exert to reach a common objective. This kit provides the means to develop the concepts of power, conflicts, and differences."

LEARNER OBJECTIVES: Objectives are stated for each lesson under two headings: *Focus* and *Objective*, e.g., "Focus: Identifying traditions and customs unique to ethnic groups in neighborhoods . . .Objective:... as he [sic] participates in a discussion based on his [sic] own experiences."

Second Instructional Design Construct: Contents

SCOPE: The first-grade materials deal with the classroom, the family, and the school by answering questions about who the learner is; the learner's wants, needs, and resources; and how the learner uses his/her resources. Second-grade materials deal with the school as a community and the neighborhood, continuing with the same spiral questions developed for the first grade and introducing a new set: what the elements are; how wants and needs are satisfied; how change occurs; what happens as a result of change. Experimental editions of third-grade materials indicate coverage will encompass the extended community, communities in the nation, the nation as a community, and communities around the world. A supplement for each unit contains visual aids designed to help the teacher carry out the activities in the guides.

SEQUENCE: The beginning themes emphasize the immediate environment of the children in the classroom and how they function within it. As pupils progress, they learn to recognize themselves in relation to an ever-expanding environment concluding with the theme of communities around the world. Opportunities for open-ended generalizations are available. Entry and exit points are fixed for all learners. The route is linear.

Third and Fourth Instructional Design Constructs

METHODOLOGY: Content is built around two major areas: thematic structure and social studies concepts and themes. Thematic structures refer to a set of topics and spiraling questions related to the topics. Concepts and schemes describe human behavior based on 11 concepts chosen from different areas of social studies.

Inquiry strategies and discovery techniques are employed in order to help the learner develop a capacity for critical thinking. Strategies presented include development of concepts, interpretation of data, exploration of feelings, analysis of values, conflict resolution, and application of generalizations. All strategies are not necessarily part of every activity. The scientific process is presented in a manner relevant to the learner. Grouping is dependent on the particular activity.

Each instructional unit constitutes one book and contains four kits. A single kit is designed for two to three weeks of instruction. Detailed instructions are described for each lesson. The introductory remarks are in both English and Spanish; however, specific lesson instructions, in what appears to be an effort to conserve space, are in Spanish only with an accompanying summary in English. Students play an active role in the learning process.

MEANS OF EVALUATION: Assessment activities "... provide appropriate testing materials by which to measure the knowledge the children have acquired in the instructional activities... [and which] help the teacher determine which concepts or skills in the instructional activities need reinforcement." A chart, presenting the criteria used to develop these activities, contains the basic categories (concepts from the cognitive domain and concepts from the affective domain) and the specific concepts/skills to be assessed. A list of the focuses and the page numbers in the guide to indicate when they should be used are included as well. Last, in order to evaluate student responses and, again, to identify learner weaknesses, record-keeping sheets are available.

Congruence of Four Instructional Design Constructs

SUMMARY: One analyst feels that the intents are not congruent with the type of evaluation described above. Another disagrees and feels all design constructs are highly congruent.

Additional Considerations

PHYSICAL DESCRIPTION: Ditto packets, supplements, and teacher's guides are illustrated in black and white, softcovered, and spiralbound. Ditto packets and supplements contain all necessary student worksheets; however, some form of reproducing master will have to be prepared by the teacher.

SOURCE: Materials written especially for ethnic-American needs.

TEACHER PREPARATION: Analysts feel that some form of preservice and/or inservice training would prove helpful.

COMMUNITY ACCEPTANCE/FAIRNESS: At times, the materials tend to reinforce stereotypic sex roles, especially when relating household tasks to family members, e.g., pages 6, 7, 24 of the unit-two guide.

It can be inferred that the Southwest, Southeast, and Northeast Editions differ only in the vocabulary used in the guides, e.g., *pizarra* or *pizarrón.* Therefore, in the future, only a Multiethnic Edition will be published, with a listing of regional variations. Teachers can then make necessary changes as they work through the materials. Of course, illustrations and other nonlexical elements would be the same for all students.

Overall Assessment and Recommendations

SUMMARY: There is a rather natural progression in topics and concepts beginning with the learner's immediate environment and terminating with national and international perspectives. Also, there is a noticeable effort to keep topics relevant to the lives of the learners, focusing intently at times on how learners perceive themselves inside and outside the classroom, on how conflict can be resolved, and on how change can be positively effected.

One analyst calls this program "a beautiful effort in bilingual education," while also expressing concern for the apparent lack of specific cultural representations in this Southwest Edition. This program is strongly recommended.

SERIE COSMOS

Identification and Background

TITLE: Serie Cosmos

AUTHOR: Department of Education, Anaya

PUBLISHER: Ediciones Anaya, S.A.; Salamanca: L. Braille, 4 (distributed by Anaya-Las Americas Spanish Book Center; 152 East 23rd Street; New York, NY 10010)

COPYRIGHT: 1971-74

MEDIUM: print (textbooks and consumable workbooks)

COMPONENTS:

Libro de consulta 3-5 (textbooks)
Libro de trabajo 1-2 (workbooks)
Cuaderno de trabajo 3a, b; 4a, b; 5a, b (workbooks)
Cuaderno de trabajo, soluciones 3a, b; 4a, b; 5a, b (answer books)
Fichas de evaluación 1-5 (evaluation materials)
*Fichas de evaluación, soluciones 1-4, 5** (answer books)
Guía del profesor 1-5
*not available for analysis

SUBJECT AREAS: natural and social sciences

CURRICULUM ROLE: basic

GRADE LEVELS: 1-5 (for use in Spain); 3-7 for use with learners in the United States as assessed by analysts)

POPULATION CHARACTERISTICS: Not specified.

RESEARCH AND DEVELOPMENT EVIDENCE: None specified.

LINGUISTIC CONTENT: Uses language understood by most Spanish-speakers worldwide.

LANGUAGE LEVEL: 3-7, advanced.

227

First Instructional Design Construct: Intents

DEVELOPER'S RATIONALE: (implied) To facilitate the understanding of concepts related to natural and social science.

LEARNER GOALS: Not specified.

LEARNER OBJECTIVES: The developers have incorporated both general and behavioral objectives into the presentation of each unit in the teacher's guides. The following were selected from the level-two guide, unit six, entitled "Illumination":

"General Objectives: That the students learn the sun is a natural source of light; That the students become familiar with means of artificial light and their history; That at their level, the learners will become familiar with the fundamentals of electricity and the operation of some appliances; and, That the learners become familiar with necessary precautionary measures.

Behavioral Objectives: From a list of five names among which the learners will encounter the sun, they will chose the sun as a source of natural light; From a list of 15 names, seven of those pertinent to means of illumination, the students will be able to identify those seven; Presented with seven illustrations, the students will identify four that represent diverse means of illumination; From five names the students will select the name of the inventor of the electric light bulb; From a list of seven names the students will be able to identify four as names of electric appliances; From three statements relative to electric appliances, the students will select the one that indicates precautionary measures; and, Given three choices, two of them false, the students will identify the danger warning located on utility poles."

Second Instructional Design Construct: Contents

SCOPE: Using the workbooks on the first two levels, students participate in activities based on their own experiences. Beginning on the third level, the use of a textbook is initiated to expand the learners' knowledge beyond the experience level. The first half of each book is dedicated to the area of natural science, the second half to social science. Natural science topics include plants, living things, the seasons, inventions, and natural phenomena. Social science topics begin with the learner's immediate environment (e.g., the family, school) and are expanded to occupations, commerce, transportation, industry, foods, clothing, communication, spiritual needs, recreation, nationalism, and characteristics of the various regions of Spain. Topics are treated in increasing depth and breadth, as evidenced by the treatment of digestion and nutrition on the fifth level. The increasing specificity is also apparent in the area of social science where previously addressed topics are applied exclusively to Spain on the fifth level.

SEQUENCE: Learners are to follow a single linear route based on increasing complexity and a breakdown of general topics to more specific areas of concentration. Small group activities are described in each unit and complementary activities are supplied for use with the entire class.

228

Third and Fourth Instructional Design Constructs

METHODOLOGY: Learners listen to the teacher's explanations of natural and social phenomena and are later required to use newly acquired knowledge in responding to various types of exercises. Obviously, the teaching methodology is didactic.

Learning activities described in the teacher's guides are directive and not very descriptive. The following presentation serves as an example.

"The teacher will explain the characteristics and differences among insects: their form of life, organization, and work they develop. The teacher will talk about honey, product of the bees, its use by man, and other products that are obtained from the work of the bees, such as wax. The teacher will explain and discuss the necessity of group work and the qualities of those animals that deserve to be imitated by man."

The complementary activities can be best defined as ideas or suggestions for activities. The development of these activities is left to the teacher, and materials may at times not be available. The motivation section is in essence an introduction to the unit which focuses on student input in the form of opinions and reactions to pictures, situations, etc. Diversity is evident in the learning environment as large group activities, small group assignments, and individual student exercises are incorporated in each unit.

MEANS OF EVALUATION: Evaluation procedures take two forms. In order that the teacher might monitor learner progress frequently, the developers have listed selected exercises the teacher can use to assess the learner's grasp of the material in each unit. Another means of evaluation appears in the form of prepared tests and corresponding answer books. Each test covers several units. No indication of how the results of these tests are to be interpreted nor of the effect, if any, they will have on the learning process has been included by the developers.

Congruence of Four Instructional Design Constructs

SUMMARY: The design constructs appear to be relatively congruent.

Additional Considerations

PHYSICAL DESCRIPTION: The materials which are nonconsumable are the textbooks, guides, and answer books; the workbooks and evaluation materials must be replaced with each new group of learners. Illustrations and photographs alike are in color and helpful to the textual descriptions.

SOURCE: Spanish materials developed abroad without adaptation for use in the United States.

COMMUNITY ACCEPTANCE/FAIRNESS: Many of the topics, especially on the fourth and fifth levels, are presented insofar as they are relevant to Spain. Not infrequently, religious sentiment is also expressed. For example, one reason given for why human beings work is "...work is an obligation imposed by God."

Overall Assessment and Recommendations

SUMMARY: There are possibilities for utilization of this product in bilingual bicultural programs in the United States, according to one analyst, who contends that a glossary of terms and more culturally relevant illustrations would make the series more suitable.

But altering the graphics is not enough. The last two levels in particular, especially in the area of social science, address topics which concern geographical regions and present conditions in Spain. The Spanish-speaking learner living in the United States is neither part of that society nor that reality. Two of three analysts who examined this series do not recommend its adoption for use in the United States, precisely because of its cultural irrelevance. The extent to which this occurs in the last two books is simply beyond the scope of adaptation.

The series does, however, present and develop a great deal of material in a carefully planned program. The instructional design has been handled markedly well. Prospective users in the United States should plan to use the materials two or possibly three years above the grade levels indicated by the developers.

SERIE DE CIENCIA HEATH

Identification and Background

TITLE: Serie de Ciencia Heath

AUTHORS: Herman Schneider and Nina Schneider

PUBLISHER: D.C. Heath and Company; 125 Spring Street; Lexington, MA 02173 (The publisher is also the distributor.)

COPYRIGHT: 1961-74

MEDIUM: print (textbooks)

COMPONENTS:
La ciencia: jugamos y trabajamos
La ciencia: aquí y ahora
La ciencia: lejos y cerca
La ciencia en tu vida
Guía para el maestro (teacher's guide)
La ciencia en tu mundo
Guía para el maestro (teacher's guide)
La ciencia: presente y futuro
Guía para el maestro (teacher's guide)

SUBJECT AREA: science

CURRICULUM ROLE: basic

GRADE LEVELS: 1-6

POPULATION CHARACTERISTICS: Not specified.

RESEARCH AND DEVELOPMENT EVIDENCE: None specified.

LINGUISTIC CONTENT: Uses language understood by most Spanish-speakers worldwide.

LANGUAGE LEVEL: 1-3, intermediate; 4-6, advanced.

231

First Instructional Design Construct: Intents

DEVELOPER'S RATIONALE: It can be inferred that the rationale is the presentation of a 1-6 science program.

LEARNER GOALS: Goals are not stated.

LEARNER OBJECTIVES: Objectives are listed only in the guides for levels five and six, which are based on the AAAS curriculum science program called *Science: A Process Approach.* They are stated in behavioral terms and divided into categories. The learner will be able to draw inferences, control variables, classify, measure, formulate models and hypotheses, make interpretations, use operational differences, and understand space and time relationships.

Second Instructional Design Construct: Contents

SCOPE: The analysts cite matter and energy, plants and animals, and earth science as the three major content areas addressed in each level in appropriate degrees of depth and breadth. Supplementation is suggested in the guides for levels four through six.

SEQUENCE: Though the developer does not confront the issue of sequence explicitly, one analyst notes that the concepts seem to build in complexity. All students are required to complete the same activities. Consequently, the route is linear and the entry and exit points are fixed.

232

Third and Fourth Instructional Design Constructs

METHODOLOGY: The description of teaching methodology is limited to the fourth, fifth, and sixth levels in the respective guides. No accommodations for individual learner differences are made, and the method has been labeled as didactic by the analysts. The description contains suggestions for the introduction of a new unit, vocabulary words, and questions for the teacher to use with each unit. Levels five and six follow a process approach.

MEANS OF EVALUATION: The developers have made no provision for evaluation.

Congruence of Four Instructional Design Constructs

SUMMARY: The developer's rationale, goals, and objectives (with the exception of levels five and six) are not specified by the authors. The process approach which appears in the last two books is not established as a base in the earlier levels, in the opinion of one analyst, and evaluation is ignored.

Additional Considerations

PHYSICAL DESCRIPTION: The complete series is contained in six hardcovered textbooks and three softcovered guides. The illustrations are in color and appropriate to the material.

SOURCE: Materials in English and widely used in the United States translated and rewritten in Spanish so as to be more suitable for the target population.

COMMUNITY ACCEPTANCE/FAIRNESS: Analysts note emphasis is given to life in Puerto Rico and feel that this product is being aimed at that market. The majority of the illustrations depict middle-class lifestyles.

ACCURACY: There are a few errors, in references to pages in the student textbook, in the teacher's guide for level four, e.g., pages 8, 11, 15, 46, and 52. The translation appears to be adequate.

Overall Assessment and Recommendations

SUMMARY: This series is an adaptation designed implicitly for use by a Puerto Rican population. The methodology is quite rigid and makes no allowance for the individual strengths and weaknesses of the learners. Furthermore, the interests are not specified, and evaluation of learner progress is ignored. If teacher's guides for the first three levels were developed, this series would be somewhat easier to use.

S.M. CÁLCULO

Identification and Background

TITLE: S.M. Cálculo

AUTHORS: Jacinto Martínez Urgartemendia (Director) et al.

PUBLISHER: Ediciones S.M.; General Tabanera, 39; Madrid – 19 (distributed by Anaya-Las Americas Spanish Book Center; 152 East 23rd Street; New York, NY 10010)

COPYRIGHT: 1971-73

MEDIUM: print (textbooks and consumable worksheets)

COMPONENTS:
Cálculo 1, 2-6* (textbooks)
Fichas de actividades 1, 2-6* (workbooks)

*not available for analysis

SUBJECT AREA: mathematics

CURRICULUM ROLE: basic

GRADE LEVELS: 1-6 (for use in Spain)

POPULATION CHARACTERISTICS: Not specified.

RESEARCH AND DEVELOPMENT EVIDENCE: None specified.

LINGUISTIC CONTENT: Uses language understood by most Spanish-speakers worldwide.

LANGUAGE LEVEL: 1-6, advanced.

First Instructional Design Construct: Intents

DEVELOPER'S RATIONALE: (implied) To present a modern mathematics program which emphasizes process by presenting theory followed by content and practice.

LEARNER GOALS: (implied) To learn mathematical concepts and skills in accordance with the age of each learner.

LEARNER OBJECTIVES: Not specified in the materials analyzed and, consequently, left entirely to the user.

Second Instructional Design Construct: Contents

SCOPE: Material is presented in detail. Reinforcement of previously established concepts is provided throughout subsequent materials. General topics and skills include: set theory; cardinal numbers; systems of numeration (base 2, 4, 5, 6, 10); measurement (metric system only); computational skills; commutative, associative, and distributive properties; money; geometric shapes and concepts of geometry; decimals (and computational skills); fractions (and computational skills); natural and rational numbers.

SEQUENCE: All pupils begin with the initial unit of the textbook and continue working as a group to the end. Material is ordered from concrete to abstract.

Third and Fourth Instructional Design Constructs

METHODOLOGY: In the introductions to the textbooks, the developers explain that learners are to deduce their own conclusions, moving from concrete to abstract. They are to elaborate themselves the concepts and other knowledge to be acquired. This discovery approach is characterized by a series of short, practical examples, whose solutions are within the grasp of the learners and which increase in difficulty, each one tied into the next. Theory is always to be addressed before content and exercises, in order of presentation. Teachers are encouraged to prepare additional activities similar to those in the textbooks and workbooks. Some of these introductory remarks in the textbooks are more lengthy than others; however, all tend to be rather brief and to lack essential detail. Questions related to student interaction and grouping remain unanswered.

MEANS OF EVALUATION: Mastery tests which parallel the contents appear to be included in the levels-five and -six worksheets at various intervals. In the materials available to the analysts, there is no description of how resultant data are to be interpreted or affect the learning process. Nor are there suggestions or directions for handling evaluation on levels one through four.

Congruence of Four Instructional Design Constructs

SUMMARY: There are no clearly defined intents. There is no apparent method of evaluating learner achievement on levels one through four.

Additional Considerations

PHYSICAL DESCRIPTION: At times, there is much material crowded on each page, and the type size is very small, e.g., page 77, textbook five. All textbooks are softcovered. Worksheets take the form of two-hole binder fillers.

SOURCE: Spanish materials developed abroad without adaptation for use in the United States.

COMMUNITY ACCEPTANCE/FAIRNESS: An extremely denigrating picture of two blacks appears on page 66 of the second-level textbook. Relatively few women are depicted; when they are, they occupy roles of teachers and homemakers. References are made to Spain throughout, e.g., maps (level-three worksheets 102 and 190); firefighter's uniforms (which differ from those used in the United States); Spain's currency (second-level textbook, page 133); and the exclusive treatment of the metric system.

Overall Assessment and Recommendations

SUMMARY: The content is presented in a very effective manner. There is a balance of modern mathematics and traditional mathematics. Significant, however, is the apparent lack of intents, a detailed methodology, and evaluation procedures. This series is designed to be used with fluent Spanish-speaking populations in Spain, and not only are there cultural variations but the language is difficult, and the concepts presented are more complex than those presented in comparable grades in the United States.

Whereas one analyst does not recommend the use of this program, another suggests this series may be useful to an experienced teacher, one capable of identifying areas where supplementation is necessary and resourceful enough to provide it.

SOCIAL STUDIES/CULTURAL HISTORY SERIES [no series title given]

Identification and Background

TITLE: Social Studies/Cultural History Series [no series title given]

AUTHORS: Aurelio Pérez Martínez and José H. Díaz Cubero

PUBLISHER: Cultural Centroamericana, S.A.; Guatemala (distributed by The Bilingual Publications Company; 1966 Broadway; New York, NY 10023; by Lectorum Publications; 137 West 14th Street; New York, NY 10010; by Santallana Publishing Company; 575 Lexington Avenue; New York, NY 10022; and by Spanish Book Corporation of America; 115 Fifth Avenue; New York, NY 10019)

COPYRIGHT: 1969-74

MEDIUM: print (textbooks)

COMPONENTS:

El viejo mundo y sus pueblos (textbook)
Mi mundo y mi comunidad (textbook)
**Conociendo a Borinquen* (textbook)
Mi pueblo y su gente (textbook)
Las américas y sus pueblos (textbook)
Mi mundo y mi isla (textbook)
Guías para el maestro (separate teacher's guides for each of above textbooks)
***Mi hogar y mis vecinos* (textbook)
***Conozcamos lo que nos rodea* (textbook)
***Guías para el maestro* (separate teacher's guides for above two textbooks)
***Puerto Rico y su historia* (textbook)
***Geografía de Puerto Rico* (textbook)
***Guía para el maestro* (teacher's guide)

* copyright, Publicaciones Cultural, S.A.; Lago Mayor 187; México 17, D.F.
**copyright, Cultural Puertorriqueña, Inc.

SUBJECT AREA: social studies

CURRICULUM ROLE: basic

GRADE LEVELS: preschool-7

POPULATION CHARACTERISTICS: Not specified.

RESEARCH AND DEVELOPMENT EVIDENCE: None specified.

First Instructional Design Construct: Intents

DEVELOPER'S RATIONALE: The purpose of this social studies program is ". . . to propitiate the formation of responsible citizens who plainly identify with the philosophical foundations of our way of life."

LEARNER GOALS: The following goals are listed on the beginning pages of several of the teacher's guides:

(1) to develop and strengthen moral and spiritual values;
(2) to develop an understanding of culture [in this series, Puerto Rican culture] and how it relates to other cultures;
(3) to stimulate active participation in democracy;
(4) to recognize that people, groups, and communities are interdependent;
(5) to understand conservation and the intelligent use of human and natural resources;
(6) to develop a consciousness of the value and importance of work and production, and of the intelligent use of goods, articles, and services, and
(7) to understand the impact of technology on daily life.

LEARNER OBJECTIVES: Objectives appear before each unit and are related to these three basic objectives:

(1) the need to prepare citizens for democracy;
(2) the needs and interests of Puerto Rican society; and
(3) the pedagogical theories presently in effect.

Second Instructional Design Construct: Contents

SCOPE: The main topics can be divided into three broad categories: Puerto Rico and its history; Puerto Rico as a community; and Puerto Rico in relation to other lands and cultures. The topics are covered in detail and clearly.

SEQUENCE: Sequence is important since this series covers such a wide range of grade levels. Within each book, sequence is again important because each major topic is divided into component parts and the difficulty of the material moves from simple to complex. Resource and other supplementary materials are provided and can be used in branching and recycling.

LINGUISTIC CONTENT: Uses language understood by most Spanish-speakers worldwide.

LANGUAGE LEVEL: preschool-7 advanced.

Third and Fourth Instructional Design Constructs

METHODOLOGY: Activities are initiated by the teacher and for the most part the learner's role is passive. The students read the text and participate in a question-and-answer period which provides quick feedback and serves as a lead into discussions. Interaction is limited to the teacher, and one or more learners. This method is clearly didactic. The activities for the upper levels follow a pattern and accompany various segments within the units. They appear as follows: I. "Palabras nuevas," which requires students to use new words in sentences; II. "Cosas que debes saber," which supplies content-related questions; III. "Cosas para investigar," which necessitates the application of acquired knowledge; IV. "Cosas para hacer," which are expanded activities not directly related to the textbook but related to the content.

MEANS OF EVALUATION: There are no tools designed for the explicit purpose of measuring student progress.

Congruence of Four Instructional Design Constructs

SUMMARY: The design constructs are fairly congruent with each other, with the exception of the evaluation construct.

Additional Considerations

PHYSICAL DESCRIPTION: The textbooks are all hardcovered, laminated, and durable. The illustrations appear to be colorful and helpful in clarifying concepts. The teacher's manuals are softcovered.

SOURCE: Spanish materials developed abroad without adaptation for use in the continental United States.

COMMUNITY ACCEPTANCE/FAIRNESS: This material is specifically geared to give Puerto Rican children an awareness of themselves and their culture. In *Conozcamos lo que nos rodea* and *Mi hogar y mis vecinos,* females are presented in traditional cooking and cleaning roles while males wash the car, for example. There is some representation of blacks, but analysts feel it's inadequate.

Overall Assessment and Recommendations

SUMMARY: Although the methodology is didactic, the series does fulfill the goals and objectives adequately. The issues regarding character formation and sex bias in *Mi hogar y mis vecinos* and *Conozcamos a lo que nos rodea* are definite drawbacks. Puerto Rico is the focal point of this series from where the rest of the world is viewed. It is a bit simplistic to suggest that the cultural background of the Puerto Rican child in Puerto Rico is identical to that of the Puerto Rican child in continental-American schools. The material flows in a logical order, and the levels are well defined. Perhaps as part of a bilingual bicultural social studies program this series would serve the learner well.

EL TREN DE COLORES: PROGRAMA 2

Identification and Background

TITLE: El Tren de Colores: Programa 2

AUTHOR: Agustín Escolano Benito (Director)

PUBLISHER: Ediciones Anaya, S.A.; Salamanca: L. Braille, 4 (distributed by Anaya-Las Americas Spanish Book Center; 152 East 23rd Street; New York, NY 10010)

COPYRIGHT: 1971-74

MEDIA: print (consumable text/workbooks, workbooks), visuals

COMPONENTS:

Unidades de experiencia (prereader)
Juegos de ideación (idea game cards)
Guía de la profesora (teacher's guide)
Cuadernos de escritura (writing workbooks)
Cartilla de lectura (reader)
Rótulos de grupo: material correspondiente a la cartilla de lectura (selected words and pictures from the reader)
Guía de la profesora (teacher's guide)
Juegos lógicos y prenuméricas * (prematheatics games)
Expresión plástica (arts and crafts workbook)
Guía de la profesora (teacher's guide)
Orientaciones pedagógicas para su utilización: guía de la profesora (guide/overview of entire program)
Láminas murales (25 picture cards)

* not available for analysis

SUBJECT AREA: early childhood education

CURRICULUM ROLE: basic

GRADE LEVELS: preschool (5 years of age) for use in Spain (preschool through grade 1, as assessed by analysts, for use in the United States.)

POPULATION CHARACTERISTICS: Not specified.

RESEARCH AND DEVELOPMENT EVIDENCE: The developers state that experimentation has guided the elaboration of the material.

LINGUISTIC CONTENT: Uses language understood by most Spanish-speakers worldwide. Some lexical elements are characteristic of use in Spain, e.g., *cerdo* for pig.

LANGUAGE LEVEL: preschool-1, advanced.

First Instructional Design Construct: Intents

DEVELOPER'S RATIONALE: "The materials which make up *El Tren de Colores* offer the teacher of preschool children an organizational base and precise practical models for systematizing all of the educational activities... [This program] is part of the innovative line of Spanish educational reform."

LEARNER GOALS: (implied) To acquaint the children with the natural and social realities that surround them; to facilitate self-expression; to develop both adaptive and creative behavior; to exercise the students' imaginative, cognitive, and motor abilities.

LEARNER OBJECTIVES: Learner objectives are stated before each unit in the teacher's guides. The following objectives, selected from unit three of the first guide, are examples: "acquisition of fundamental information about the characteristics of animals; the development of observation, discrimination, and recognition abilities; amplification of vocabulary; development of the ability to express experiences orally; and promotion of favorable attitudes toward knowledge and care of the animals."

Second Instructional Design Construct: Contents

SCOPE: Areas of development are treated concurrently and in detail. Cognitive skills such as seriation, classification, number and letter recognition, and oral expression are covered, along with psychomotor and manipulative skills (writing), the development of attitudes (dress, cleanliness), and socialization.

Three phases, corresponding to three trimesters, divide the materials. In phase one, the children are immediately exposed to reading complete sentences so that they will become familiar with certain sentences that will aid them in the recognition of word forms and sounds. Exercises are designed to develop visual and aural discrimination, visual and aural memory, and oral language. Phase two continues the procedures introduced in the first phase, dealing primarily with games of recognition. Using visual and phonetic procedures, the children discover elements common to sentences and words. While working in the third phase, students practice sentence formation and perform transformations. They recognize phonemes and respective graphemes and discover the most common irregularities.

SEQUENCE: The materials are divided into 25 subunits and five color-coded major units. Each subunit is designed to be covered in one week; however, the developers realize that the amount of time spent will be relative to the individual situation. A linear sequence is to be followed. The material is arranged in an order of increasing complexity and all students are to complete the activities.

Third and Fourth Instructional Design Constructs

METHODOLOGY: Following an inductive approach to the learning process, the learners first work with a predetermined amount of material and then, with the guidance of the teacher, draw inferences and ultimately arrive at a discovery of visual and phonetic differences. The developers term the methodology "global" and "active"; the analysts have described it as "discovery" and "experimental." The teacher is encouraged to enrich the program with his or her own resources, always preserving respect for the didactic structure inherent in the materials. The user instructions for each subunit are helpful and complete. The nature of the activities varies greatly, as does the methodology, dependent on the integration of areas covered, e.g., language experience, drawing. However, most of the activities are presented as games. The learner's role is active.

MEANS OF EVALUATION: The developers have not included diagnostic tools in this program.

Congruence of Four Instructional Design Constructs

SUMMARY: There is a relatively high degree of congruence among the design constructs, with the exception of the evaluation construct.

Additional Considerations

PHYSICAL DESCRIPTION: Materials designed for student use are consumable. All materials are softbound. There are five writing workbooks, some 75-odd idea game cards (printed on thin cardboard), a prereader, a reader, an arts and crafts book, a premathematics book, a book of selected words and pictures from the reader, 25 color posters, and several guides. With some minor exceptions, the illustrations are interesting and colorful.

SOURCE: Spanish materials developed abroad without adaptation for use in the United States.

COMMUNITY ACCEPTANCE/FAIRNESS: There is evidence of sex bias in nearly all depictions of occupation, e.g., women are homemakers, teachers, nurses, while men are doctors, executives, carpenters, storekeepers. Many illustrations are representative of middle-class white families. Blacks are portrayed as primitive people who live in grass huts. Native Americans and nomadic arctic inhabitants are similarly depicted as peoples who live at a low level of subsistence. There are some religious topics treated.

Overall Assessment and Recommendations

SUMMARY: The cultural representations do not reflect the lifestyles of any of the Spanish-speaking populations living in the United States. In terms of the use of this program in bilingual bicultural classrooms in the United States, however, two analysts find it quite acceptable and consistent with preschool curricula throughout the United States while another analyst takes exception. (The preschool-through-grade-one level has been suggested because of the broad scope of early childhood education.)

In contrast to the very well organized content, the complete description of the methodology, the wide range of learning activities, and the active learner roles are the absence of an evaluation construct, and the sex and racial biases. Nonetheless, this program can be adapted and can be an asset to early childhood education.

LA VIDA DEL HOMBRE

Identification and Background

TITLE: La Vida del Hombre

AUTHOR: Department of Education, Anaya

PUBLISHER: Ediciones Anaya, S.A.; Salamanca: L. Braille, 4 (distributed by Anaya-Las Americas Spanish Book Center; 152 East 23rd Street; New York, NY 10010)

COPYRIGHT: 1971-73

MEDIUM: print (textbooks and consumable workbooks)

COMPONENTS:

Libro de consulta del alumno 3-5 (textbooks)
1° *Fichas de enseñanza individualizada* (workbook)
2° *Fichas de enseñanza individualizada* (workbook)
3° *Fichas de enseñanza individualizada I-II* (workbooks)
4° *Fichas de enseñanza individualizada I-II* (workbooks)
5° *Fichas de enseñanza individualizada I-II* (workbooks)
Soluciones 1; 2; 3a, b; 4a, b; 5a, b* (answer books)
Guía del profesor 1-5 (teacher's guides)

*not available for analysis

SUBJECT AREA: social science

CURRICULUM ROLE: basic

GRADE LEVELS: 1-5 (for use in Spain)

POPULATION CHARACTERISTICS: Not specified.

RESEARCH AND DEVELOPMENT EVIDENCE: None specified.

LINGUISTIC CONTENT: Uses language understood by most Spanish-speakers worldwide.

LANGUAGE LEVEL: 1-5, advanced.

217

First Instructional Design Construct: Intents

DEVELOPER'S RATIONALE: (implied) To introduce students to a general study of human existence, involving them in their immediate as well as universal surroundings. And to develop a social science program relative to life in Spain.

LEARNER GOALS: The following are examples selected from some 19 goals which appear on the introductory pages of the guides: "...Aptitude to relate and expound upon problems...The ability to locate facts and situations in coordinated time/space relationships...Acquisition of work habits...Attitude of respect to human beings as persons and as members of social and national groups...Immersion into the social, political, and cultural reality of Spain... To develop active participation in society with the desire to better it... Understanding of interdependence among individuals and groups..."

LEARNER OBJECTIVES: Objectives are stated before the discussion of each unit in the guides. On the first two levels, a single objective is stated. Levels three through five have a general objective and several specific objectives.

Level four, unit two:

general objective: "With the development of this unit, students should become familiar with the geography of our country [Spain]: its situation in the world and physical and human aspects."

specific objective: "To become familiar with Spain's situation in the world and in Europe, its extension and population. To understand the advantages and inconveniences relative to the geographical position."

Second Instructional Design Construct: Contents

SCOPE: This series is developed around the following areas of study: geography, history, economics, sociology, civics, political science. Much of the emphasis is placed on how different aspects of these areas relate to life in Spain, e.g., the geography of Spain, and study of the Spanish government.

On the first two levels, emphasis is on the analysis of the immediate social environment. The third level expands the content to include history and contributions of various peoples and societies, e.g., the lives of Shakespeare and Cervantes, lifestyles of ancient Greece, Rome, etc. The fourth level deals more specifically with life in Spain. And level five treats all subject areas in relation to the present-day [1972] world.

SEQUENCE: The content becomes broader and deeper as the learner moves from the first through fifth levels in a fixed sequence. Advance organizers are used to prepare learners for more complex treatment of recurring concepts.

218

Third and Fourth Instructional Design Constructs

METHODOLOGY: Inquiry and discovery methods are described by the developers. The development of concepts and generalizations is deductive. The methodology, say the developers, "should be in agreement with investigative methods in the social sciences." The role of the teacher is that of a guide who recommends various ways to solve problems, aids the students in formulating questions, designs learning situations which will facilitate investigations, and maintains the focus on the principal concepts and topics.

The descriptions in the guides are clear and useful. Recommendations for motivation and discussion are supplied, and interaction between teacher and student, and student and one or more other students, is encouraged.

MEANS OF EVALUATION: Observation of students engaged in discussion and in other learning activities is termed, by the developers, one of the most important means of gathering evaluative information. Moreover, there are instructions to guide the teacher in making formal objective and informal subjective tests.

Congruence of Four Instructional Design Constructs

SUMMARY: The discussion of evaluation expresses the developer's concern for the role evaluation plays in the learning process; yet no evaluation materials have been prepared.

The inquiry and discovery methodologies are not quite as intense as the descriptions would have the reader believe.

249

Additional Considerations

PHYSICAL DESCRIPTION: The books are attractive and well illustrated. All components are softbound. The pages in the workbook are designed to be torn out and tend to loosen from the binding.

SOURCE: Spanish materials developed abroad without adaptation for use in the United States.

COMMUNITY ACCEPTANCE/FAIRNESS: The cultural content is intensely representative of the history, geography, social structure, predominant religious beliefs, and economics of Spain.

CURRENCY: Two analysts find the balance of cultural content between past and present to be strikingly well handled.

Overall Assessment and Recommendations

SUMMARY: With the exception of the cursory treatment of the evaluation construct, this program is a very well planned instructional material. The language is advanced and designed for use in Spain. It would be wise for potential users in the United States to use the materials one grade, or possibly two grades, above the levels indicated by the developers.

Cultural content in this series is a very serious consideration. The general concepts would present the bilingual teacher with little difficulty. The specifics, on the other hand, refer invariably to Spain's cultural history and present-day situation in the world. One analyst does think it can be adapted; however, two others feel this would not be feasible since the quantity of material to be deleted or changed would be extensive. The entirety of the fourth level, for example, would have to be completely excluded.

Of lesser consequence is the lack of supplementary resources and provisions for reinforcement, remediation, and enrichment. In light of the flexible nature of the methodology used, these areas could be provided for without an inordinate dependence on the teacher.

250

Synthesized Analyses of Supplementary Instructional Materials
Spanish "Branch" Subjects

AHORA CONOCES LAS PLANTAS

TITLE: Ahora Conoces las Plantas

AUTHOR: Anne Neigoff

PUBLISHER: Encyclopaedia Britannica Educational Corporation; 425 North Michigan Avenue; Chicago, IL 60611 (The publisher is also the distributor.)

COPYRIGHT: 1973

COMPONENTS:

Ahora conoces: las plantas y sus semillas (textbook)
Ahora conoces: los lugares donde viven las plantas (textbook)
Ahora conoces: las plantas que necesitamos (textbook)
Ahora conoces: muchas plantas (textbook)
*Ahora conoces: Las plantas y cómo crecen** (textbook)
Teacher's Guide for Edición Español
*audiocassettes**

*not available for analysis

SUBJECT AREA/GRADE LEVELS: k-4, natural science

LANGUAGE LEVEL/LINGUISTIC CONTENT: Uses language understood by most Spanish-speakers worldwide/k-4, advanced.

R&D EVIDENCE: None specified.

INTENTS: *Developer's Rationale:* This series was ". . . created for children to whom English is a second language and to those learning Spanish as a second language, for the plant world provides a common heritage that all children can understand and share."

Learner Goals: To introduce learners to a variety of plant life and to common properties all plants share. To explore places where plants live and to show how plants are adapted to their environments. To introduce learners to the functions of plant parts and to how they grow. To discover and to observe how seeds differ. To help learners understand how plants are used in their daily lives.

Learner Objectives: Suggested activities are described for each book. Objectives accompany these descriptions, e.g., "To help children compare the shapes of seeds and observe how the shapes affect seed travel....To help children identify plants we use for clothing and shelter, work and play."

CONTENTS: *Scope:* In survey fashion, the authors provide the learners with an overall view of plant life: how plants grow, where they grow, how they differ, and which plants human beings need. Many types of activities are provided; however, since this is a supplementary material, not all activities and materials must be used for a successful experience.

Sequence: The learners are to work at the same rate, either following the sequence suggested in the guide or one the teacher develops.

METHODOLOGY: Most activities described involve an inquiry technique. The teacher poses questions which require learners to think about their personal experiences or to observe pictures or demonstrations and, then, to form bases for their responses, e.g., "What plants do the children see as they walk to school."

Other techniques include songs, games, and riddles. One of the bilingual bicultural activities draws a comparison between plant travel and how people travel. Learners are to look for Spanish names of places in the U.S. and to discuss Spanish colonists. Through practice, the developers claim, listening and oral language skills will be enhanced. The audiocassettes contain the text content of the book on one side, intended for learners who cannot yet read, and enrichment material on the second side.

MEANS OF EVALUATION: There are no means for assessing learner progress.

CONGRUENCE: The absence of an evaluation construct leaves mastery of objectives in question. Some activities – e.g., the study of Spanish colonists – are stretched and do not fit realistically into the scope of the materials.

ADDITIONAL CONSIDERATIONS/OVERALL ASSESSMENTS: *Physical Description:* The student textbooks are hardcovered. Illustrations are colorful and clearly demonstrate the textual description. The guide is softcovered and in English. Songs are in Spanish, and scripts for the tapes are in both Spanish and English.

Source: Materials translated and rewritten in Spanish so as to be more suitable for the target population.

Overall Assessment and Recommendations: The vocabulary is quite advanced and would be more suitable for third and fourth graders than learners in earlier elementary school grades. However, if teachers used the cassettes and made minor adaptations, learners in grades one and two could be easily accommodated.

The authors do, at times, attempt to expand the scope of the materials by suggesting that learners develop communication skills, or, as mentioned above, that they study Spanish colonists. Perhaps the purpose is to make the books more appropriate for use in bilingual bicultural situations, but this is done at the expense of congruence. It should be kept in mind that such activities are designed primarily for enrichment purposes. As a supplement to a natural science program, these books should be effective.

252

253

THE AMERICAN BICENTENNIAL – A VISUAL PERSPECTIVE

TITLE: The American Bicentennial – A Visual Perspective

AUTHOR: Edward Dubrowsky

PUBLISHER: Urban Media Materials, Inc.; 212 Mineola Avenue; Roslyn Heights, NY 11577 (The publisher is also the distributor.)

COPYRIGHT: 1975

COMPONENTS: (eight kits containing four sound filmstrips each)
Discovery and Exploration
The First American Revolution 1750-1789
Expansion and Growth – 19th Century America
The Divided House – The Second American Revolution
Industrial America – The Third American Revolution
Becoming a Modern Nation
The Transformation of American Society
Twentieth Century America

SUBJECT AREA/GRADE LEVELS: American history/upper elementary school and secondary school grades

LANGUAGE LEVEL/LINGUISTIC CONTENT: Use, language understood by most Spanish-speakers worldwide/7-12, advanced.

R&D EVIDENCE: None specified.

INTENTS: *Developer's Rationale:* "While a great deal remains to be accomplished, the record of the past [the history of the United States] is a unique epic in the story of mankind, and it deserves to serve as a model for the future."

Learner Goals: (implied) To gain chronological perspective into the discovery of America and the major events of the past 200 years of United States history.

Learner Objectives: Not stated.

CONTENTS: *Scope:* The program covers the history of the United States from the Spanish explorers to the present day. The scope can best be defined through a look at the filmstrip titles: Columbus and the Spanish Explorers; John Cabot and the English Explorers; The French in New France; Henry Hudson and New Amsterdam; Background [to the first American revolution]; Causes of the 1776 Revolt; Revolutionary War Events; Results: The Constitution; West to the Mississippi; The Louisiana Territory; Conquest of New Spain; Manifest Destiny–to the Pacific; Historical Background [to the Civil War]; Events of the Civil War; Civil War Personalities; Legacy and Aftermath of the Second American Revolution; Early Industry in America; The American Industrial Revolution; Labor Unions and Industrialized Society; Modern Technology and Its Impact on the World; The Spanish American War – parts I and II; The First World War – parts I and II; Changing Life Styles, Rise of the Cities; Civil Rights; Communications for People and Industry; The Great Depression, World War II; Emergence of the United States in the World Community; and The Future in Science and Space.

Sequence: The kits are chronologically ordered. Single kits may, nevertheless, be used to supplement a particular unit of study. A fixed, linear route is implied.

METHODOLOGY: Each filmstrip is divided into three sections: historical background, presentation and development of the topic, and questions for discussion. After the audio presentation concludes, learners are to answer the questions. The technique is fundamentally didactic. On the other hand, the suggested activities located in the *Suggestions for Use* manuals present a variety of options teachers can implement as they see fit. They involve discussions, debates, role-playing, and research. Many of these activities are quite relevant to current national issues. For example, learners are directed to "Trace the development of ecology beginning with Theodore Roosevelt... trace the development of the women's rights movement and discuss its reasons for evolving...define impeachment and compare it to conviction..." Other topics are "Automation – Friend or Foe" and "The Medium Is the Message." For the teacher's use, summaries of each filmstrip, questions for discussion, and bibliographical references are also included in the manuals.

MEANS OF EVALUATION: No provisions for evaluation have been included.

CONGRUENCE: There is no way to assess intended learner outcomes.

ADDITIONAL CONSIDERATIONS/OVERALL ASSESSMENT: *Physical Description:* Each kit contains four full-color filmstrips and corresponding audiocassettes. They can be purchased in English only, Spanish only, or, as in the case of those used for this analysis, in Spanish and English. The manuals are softbound and in English only. The review questions in the filmstrips, as well as all introductory frames which contain printed material, are in English only. Kits may be purchased individually.

Source: Materials translated from English to Spanish without adaptation.

Overall Assessment and Recommendations: If one can bear the cloying chauvanism revealed by the developer's rationale, these sound filmstrips can be of considerable value in establishing a chronological frame of reference and in introducing periods being studied. Users are advised that the audiocassettes are the only components which have been translated.

THE BRENTANO BI-LINGUAL MEDIA SERIES: MODULE IV, TRANSPORTATION AND COMMUNITY WORKERS (COMMUNITY WORKERS SEGMENT)

Identification and Background

TITLE: The Brentano Bi-lingual Media Series: Module IV, Transportation and Community Workers (community workers segment)

AUTHORS: The Brentano Foundation
Fred S. Rosengarden and Robert E. Schneider (preparation of guide)

PUBLISHER: Carousel Films, Inc.; 1501 Broadway; New York, NY 10036 (The publisher is also the distributor.)

COPYRIGHT: not specified

MEDIA: 16mm sound films, print (preprinted consumable activity sheets)

COMPONENTS:
We Visit the Post Office/Visitamos a la casa de correos
At the Fire Station/ En el parque de bombas
Teacher's Guide

SUBJECT AREA: social studies

GRADE LEVELS: not specified (1-3, in analysts' opinion)

POPULATION CHARACTERISTICS: Not specified.

RESEARCH AND DEVELOPMENT EVIDENCE: None specified, except as noted under "Learner Objectives."

LINGUISTIC CONTENT: Uses language understood by most Spanish-speakers worldwide.

LANGUAGE LEVEL: 1-3, beginner/simple.

256

First Instructional Design Construct: Intents

DEVELOPER'S RATIONALE: "The *Brentano Bi-lingual Media Series* is a primary level, inter-disciplinary instructional program designed specifically for children working in a bi-lingual Spanish/English learning environment."

LEARNER GOALS: (implied) To achieve an understanding of the functions of the postal service and the fire department.

LEARNER OBJECTIVES: (community workers segment)

"1. Given a series of pictures dealing with the post office and postal services, students will be able to identify at least 64% of the examples in either English or Spanish.
2. Given a series of pictures dealing with the fire department and fire department and fire protection services, students will be able to identify at least 58% of the examples in either English or Spanish.
3. Given a series of symbols representing the 12 major aspects of city government, students will be able to identify at least 50% of the examples in either English or Spanish.
4. Given pictures representing major work areas within a city, students will be able to identify at least two work positions for each of the work areas.
5. Given the symbols for the U.S. Government's officially designated 15 career areas, students will be able to identify at least 67% of the categories.
6. Given the U.S. Government's officially designed 15 career areas, students will be able to provide one or more job examples for at least 67% of the categories."

NOTE: The developers claim the above percentages are based on preliminary field testing and welcome results from users. It may be inferred that the pictures mentioned are those found on the activity sheets.

Second Instructional Design Construct: Contents

SCOPE: Children are given insight into the occupations of postal service workers and firefighters. The community services which these two groups provide are treated in depth. Other community workers are not mentioned in the films and are encountered for the first time in the activity sheets. Elaboration and explanation are left to the teacher.

SEQUENCE: The order in which the films and activities are used is left to the teacher's discretion.

257

Third and Fourth Instructional Design Constructs

METHODOLOGY: Directions for use take the form of general suggestions. For example, one of the follow-up activities is: "Use the preprinted activity sheets provided with this guide. Each sheet introduces and/or reinforces several basic concepts at the discretion of the teacher."

Permission, as well as detailed instructions for the reproduction of the activity sheets using thermal copier methods, photocopy methods, and projection (opaque and overhead),are incorporated in the guides.

The films make simultaneous use of English and Spanish spoken by children and narrators. Teachers are to give all instructions in both languages, and some activities involve the identification of pictures in both languages. (The guides use English only.) Other activities include gathering career-related information directly from community workers as well as government agencies, making bulletin boards, and discussion.

MEANS OF EVALUATION: Several of the student activity sheets may serve as pre- and posttesting materials, in addition to their being used as instructional materials. The authors recommend the activity sheets be administered before beginning instruction, after completion of instruction, and, it is implied, during instruction as exercises. "Depending upon the specific goals of the teacher and upon the abilities and ages of the children, the entire sheet or *any of its separate parts may be utilized.*"

Congruence of Four Instructional Design Constructs

SUMMARY: The developers fail to specify which group of pictures has been used to determine the percentages given in the statement of objectives so that the users can check their results. And, only one-third of the objectives are related to material covered by the films.

It is questionable that the very same materials used for pretesting purposes, instructional purposes, and posttesting purposes could seriously be considered a valid assessment of learner progress.

Additional Considerations

PHYSICAL DESCRIPTION: *We Visit the Post Office/Visitamos la casa de correos* runs eight minutes. *At the Fire Station/En el parque de bombas* is ten minutes in length. The films are in color, and the same bilingual class is depicted visiting the post office and the fire station.

Spanish and English are used interchangeably by the narrators and children in the class. The fire station tour is particularly exciting, as the children witness an actual drill and are permitted to wear firefighter's hats and climb a firetruck.

The activity sheets constitute part of the unbound teacher's guide, which is held together with a binder clip. Black-and-white worksheets are used exclusively. Instructions for duplicating the preprinted activity sheets and for the construction of transparencies are supplied.

SOURCE: Materials developed especially for ethnic-American needs.

COMMUNITY ACCEPTANCE/FAIRNESS: All community workers depicted in the films are males. Sex discrimination is also implicit in words such as *fireman, mailman* and *postman,* and *policeman. Firefighter, postal worker,* and *police officer* avoid this sexism.

ACCURACY: The vocabulary lists in the guide are composed of English and Spanish words. Accent marks for Spanish words have been excluded. The references to the teachers of the class depicted in the film are inconsistent; they are referred to as Señora Johnstone, Mrs. Jamieson, and Señorita.

Overall Assessment and Recommendations

SUMMARY: The two 16mm films are the central media of this program. They give an interesting and fairly conclusive account of only postal workers and firefighters. Two-thirds of the objectives, on the other hand, refer to community workers not discussed in the films, and, aside from a few activity sheets, no instructional materials for the study of these workers are supplied.

Coupled with the poor suggestions for evaluation, the effectiveness of this material is otherwise jeopardized. Sizeable truncation of the scope and objectives, as well as revision of evaluation techniques, will be necessary in order to restore the cohesion inherent in the films themselves. It can be inferred that the guide was not developed in conjunction with the films, but rather after the films were completed. The detrimental effect of the attempt in the guides to expand the scope beyond what is covered in the films outweighs any additional attractiveness which may have been intended.

The simultaneous use of English and Spanish flows smoothly. Learners should enjoy seeing students like themselves on film.

THE BRENTANO BI-LINGUAL MEDIA SERIES: MODULE IV, TRANSPORTATION AND COMMUNITY WORKERS (TRANSPORTATION SEGMENT)

Identification and Background

TITLE: The Brentano Bi-lingual Media Series: Module IV, Transportation and Community Workers (transportation segment)

AUTHORS: The Brentano Foundation
Fred S. Rosengarden and Robert E. Schneider (preparation of guide)

PUBLISHER: Carousel Films, Inc.; 1501 Broadway; New York, NY 10036 (The publisher is also the distributor.)

COPYRIGHT: not specified

MEDIA: 16mm sound films, print (preprinted consumable activity sheets)

COMPONENTS:
From Wheels to Wings/Desde la rueda hasta el avión
*Trains and More Trains/Trenes y mas trenes**
Boats and Bridges/Barcos y puentes
Our First Plane Ride/ Nuestro primer viaje en avión
Teacher's Guide

*not available for analysis

SUBJECT AREA: social studies

GRADE LEVELS: not specified (1-3, in analyst's opinion)

POPULATION CHARACTERISTICS: Not specified.

RESEARCH AND DEVELOPMENT EVIDENCE: None specified, except what is noted under "Learner Objectives."

LINGUISTIC CONTENT: Uses language understood by most Spanish-speakers worldwide.

LANGUAGE LEVEL: 1-3, beginner/simple.

260

First Instructional Design Construct: Intents

DEVELOPER'S RATIONALE: "The *Brentano Bi-lingual Media Series* is a primary level, inter-disciplinary instructional program designed specifically for children working in a bi-lingual Spanish/English learning environment."

LEARNER GOALS: (implied) To gain insight into past and contemporary modes of transportation.

LEARNER OBJECTIVES:

"1. Given a series of pictures of antique and modern freight and passenger trains, students will be able to identify the names of at least 50% of the examples.
2. Given a series of pictures dealing with boats, boating, and bridges, students will be able to identify at least 58% of the examples.
3. Given a series of pictures dealing with airports and aviation, students will be able to identify at least 58% of the examples.
4. Given a series of pictures of primitive, original forms of transportation, students will be at least 50% successful in selecting the most appropriate mode of transportation of those depicted on activity sheet #7."

NOTE: The developers claim the above percentages are based on preliminary field testing and welcome results from users. It can be inferred that the series of pictures specified in the objectives are those found on the activity sheets.

Second Instructional Design Construct: Contents

SCOPE: An actual bilingual class is filmed, first, discussing transportation in the classroom and, later, taking a ride on a train, on a boat, and on an airplane.

From Wheels to Wings/Desde la rueda hasta el avión, the first film, provides a general introduction to the study of transportation. After a definition of transportation is given and some historical perspective is established, the remaining three films treat in greater detail specific modes of modern transportation. The depth and breadth of the material are very appropriate for children in grades one through three.

SEQUENCE: Provided the introductory film, *From Wheels to Wings/Desde la rueda hasta el avión,* is shown first, the remaining three films may be shown in any order.

261

Third and Fourth Instructional Design Constructs

METHODOLOGY: Spanish and English are equally important in the learning process. The majority of the activity sheets deal with the identification of pictures which cover the vocabulary and concepts of each of the films. Expanded exercises include suggested topics for discussion, e.g., discussion of those modes of travel most common to the city or of the appropriateness of specific modes of travel and/or transportation for people and cargo.

The descriptions of the activities are brief and suggestive rather than directive. The activity sheets constitute a large portion of the guide and must be reproduced by the teacher. Clear instructions for thermal copier methods, photocopy methods, and projectual techniques are supplied.

The learner plays an active role in the learning process, responding to questions and forming generalizations. Flexibility in grouping and pacing is implied.

MEANS OF EVALUATION: The developers suggest that several of the student activity sheets may serve for pre- and posttesting. Those sheets to be used for evaluation purposes are to be selected by the teacher and administered before beginning instruction, during instruction as an instructional material, and after completion of instruction.

Congruence of Four Instructional Design Constructs

SUMMARY: Assessing achievement of learner objectives by using identical material for pretesting, instructional, and posttesting purposes will, in all likelihood, yield results of questionable validity.

Additional Considerations

PHYSICAL DESCRIPTION: The films are in color and run between eight and 13 minutes in length. The same bilingual class depicted in the community workers segment of Module IV is portrayed in transportation films. Spanish is used interchangeably and naturally by both narrators and children. Translation of statements is the exception rather than the rule.

Activity sheets are in black and white and are contained in the unbound teacher's guide, which is held together by a binder clip. Instructions for several reproduction techniques are supplied.

SOURCE: Materials developed especially for ethnic-American needs.

COMMUNITY ACCEPTANCE/FAIRNESS: The word *stewardess* carries implicit sexual bias. Cabin attendant or flight attendant are now accepted by the airline industry.

ACCURACY: Accent marks for the Spanish words in the vocabulary list have been excluded. The teachers of the class are addressed in the guides as Señora Johnstone, Mrs. Jamieson, and Señorita.

Overall Assessment and Recommendations

SUMMARY: The class filmed in Module IV is an actual bilingual class. Learners will undoubtedly enjoy watching students their own age on film. The intermittent flow of English and Spanish is natural and easy to understand. These films could be used profitably in the bilingual classroom.

THE BRENTANO BI-LINGUAL MEDIA SERIES: MODULE V, SUMMERFUN

Identification and Background

TITLE: The Brentano Bi-lingual Media Series: Module V, Summerfun

AUTHORS: The Brentano Foundation
Fred S. Rosengarden; Robert E. Schneider (preparation of guide)

PUBLISHER: Carousel Films, Inc.; 1501 Broadway; New York, NY 10036 (The publisher is also the distributor.)

COPYRIGHT: not specified

COMPONENTS: 16mm sound films, print (preprinted consumable activity sheets):

A Day in the Park/Un día en el parque
Touchdowns and Horses/Goles y caballos
Fiesta/La fiesta mexicana
The Big Trees/Los árboles grandes
Teacher's Guide

SUBJECT AREAS: language arts, social studies

GRADE LEVELS: 1-3 (in analysts' opinion)

POPULATION CHARACTERISTICS: Not specified.

RESEARCH AND DEVELOPMENT EVIDENCE: None specified.

LINGUISTIC CONTENT: Uses language understood by most Spanish-speakers worldwide.

LANGUAGE LEVEL: 1-3, beginner/simple.

First Instructional Design Construct: Intents

DEVELOPER'S RATIONALE: "The *Brentano Bi-lingual Media Series* is a primary level, interdisciplinary instructional program designed specifically for children working in a bi-lingual Spanish/English learning environment."

LEARNER GOALS: Left entirely to the user.

LEARNER OBJECTIVES: The developers direct the user to write the objectives. "Indicate the anticipated outcomes in terms of specific skills and/or behavioral traits which are both observable and measurable."

Second Instructional Design Construct: Contents

SCOPE: Enrichment of vocabulary in both English and Spanish is the only aspect of this series common to all the films. Other skills and topics appear to have been randomly assigned and seemingly stretched to fit into the activities sections. Examples follow: visual discrimination, review of colors, study of bullfighting, cultural aspects common to many Spanish-speaking countries, word and beginning-sound puzzles, songs, dance, parts of human and animal bodies, the rain cycle, cloud types, study of trees and wood products, study of parks.

SEQUENCE: "Touchdowns and Horses/Goles y caballos" is a classroom discussion of the field trip in "A Day in the Park/Un día en el parque" and should therefore be shown after "A Day in the Park." Sequence is otherwise unimportant. As in the case of the learning activities, the vocabulary presentation is based on the content of the films rather than on increasing difficulty or any other criterion.

Third and Fourth Instructional Design Constructs

METHODOLOGY: The majority of the activity sheets are addressed to vocabulary development in both English and Spanish through identification of pictures and word puzzles.

There is little cohesion, however, among other activities. For example, an activity to be used with "A Day in the Park/Un día en el parque" is not related to the content of the film at all. It involves a study of 23 parts of human and animal bodies. Similarly, a study of cloud types is to be used in conjunction with the film "The Big Trees/Los árboles grandes."

The activity sheets are preprinted and must be reproduced by the teachers. Several methods of reproduction—such as thermal copying, photocopy methods, and projectural techniques—are described. The directions for use of the materials are not, however, nearly as elaborate. The learner's role is active, but rather repititious.

MEANS OF EVALUATION: The developers suggest that several of the student activity sheets can serve as pre- and posttesting materials. Those sheets used for evaluation purposes are to be selected by the teacher and administered before beginning instruction, during instruction as an instructional material, and after completion of instruction.

Congruence of Four Instructional Design Constructs

SUMMARY: There seems to be a lack of certainty as to the purpose of these materials, as evidenced in statements of goals and objectives. The contents lack even the most basic cohesion. And evaluation techniques—which make use of identical material for pretesting, posttesting, and instructional purposes—are certainly of questionable validity.

Additional Considerations

PHYSICAL DESCRIPTION: The films are in full color and run an average of eight minutes in length. "A Day in the Park," "Fiesta," and "The Big Trees" depict a bilingual class on field trips. "Touchdowns and Horses" is a classroom follow-up and review of "A Day in the Park" and is noticeably staged. The intermittent use of English and Spanish flows naturally, spoken by both narrators and children.

The activity sheets are in black and white and are to be reproduced by the teacher. They are located in the guide which is unbound and held together by a binder clip.

SOURCE: Materials developed especially for ethnic-American needs.

COMMUNITY ACCEPTANCE/FAIRNESS: "A Day in the Park" depicts boys playing football and girls standing along the sidelines cheering and making flower necklaces.

ACCURACY: The title of Module V is "Summerfun"; yet the films revolve around school-related activities and situations exclusively.

Overall Assessment and Recommendations

SUMMARY: The weaknesses noticeable in the intents, methodology, and evaluation constructs are subsequent to, and resultant from, a more sizeable and certainly more serious shortcoming. There can be no more cohesion among the design constructs than there is within the content of an instructional material. And what is being taught in Module V is never really made clear to the user. The teacher is given a specified quantity of material from which he or she is, in essence, expected to finish the developer's job. It is quite obvious that the activities were contrived to fit into the context of the films. Furthermore, it may be inferred that the developers themselves, realizing the collage of activities and topics are devoid of structure, made an attempt at compensation by offering flexibility and by leaning on teacher judgment.

The films themselves are of admirable quality. There is adequate cultural consideration given to the children of Mexican descent in "Fiesta." The simultaneous use of English and Spanish—not, incidentally, restricted to translation—is innovative. The children will enjoy seeing their peers interacting on film. Nevertheless, Module V is not recommended for use as an instructional material in bilingual bicultural programs.

THE CARIBBEAN STORIES

Identification and Background

TITLE: The Caribbean Stories

AUTHORS: Mark Rubin
"The Magical Coqui" by Blanca Ortiz
guide by Jeanne Tober

PUBLISHER: Urban Media Materials; 212 Mineola Avenue; Roslyn Heights, NY 11577 (The publisher is also the distributor.)

COMPONENTS:
Even Yellow Cars Have To Wait in Line (filmstrip and audiocassette)
Paco and His Painting Pals (filmstrip and audiocassette)
Too Too Too Hot! (filmstrip and audiocassette)
The Magical Coqui (filmstrip and audiocassette)
Suggestions for Use (teacher's guide)

SUBJECT AREAS: language arts, science, social studies, art, mathematics

GRADE LEVELS: k-4

POPULATION CHARACTERISTICS: Not specified.

RESEARCH AND DEVELOPMENT EVIDENCE: None specified

LINGUISTIC CONTENT: Uses language understood by most Spanish-speakers worldwide.

LANGUAGE LEVEL: k-4, advanced.

283

First Instructional Design Construct: Intents

DEVELOPER'S RATIONALE: (implied) To present stories involving Spanish-speaking children which can be used to supplement other subject areas.

LEARNER GOALS: (implied) To motivate student interest in various subject areas.

LEARNER OBJECTIVES: Each story has one or more concepts upon which the activities are built. These concepts can be considered the objectives of the individual stories but they are in no way the only ones. The stories provide several different types of activities and the objectives are consequently contingent on which specific topic and subject area the material is selected to supplement.

Second Instructional Design Construct: Contents

SCOPE: The central concepts or themes of each story are expanded upon in various social studies, language arts, art, science, and mathematics activities. The central concepts of each story, as listed in the guide, appear below. All activities need not be completed for a successful experience.

"Even Yellow Cars Have To Wait in Line": the difference between life in Puerto Rico and New York City; each child belongs to a family consisting of different members; observation and patience help us learn about our environment.

"Paco and His Painting Pals": cooperation is an important element of any project; painting is a form of art that enhances our environment.

"Too Too Too Hot!": the importance of weather and temperature in plant growth; things that are necessary for plant growth; responsibility and cooperation; different plants grow in different climates; Santo Domingo is an island with a hot climate where coconut plants grow.

"The Magical Coqui": life in Puerto Rico is different from life in continental urban centers; people have different kinds of animals as pets; the coqui is a small frog that lives in humid climates; we should not wish things that can cause harm to others.

SEQUENCE: Sequence is not important and is left to the user's discretion.

283

Third and Fourth Instructional Design Constructs	Additional Considerations
METHODOLOGY: The guide suggests activities in language arts, art, science, social studies, and mathematics to be used in conjunction with the filmstrips. The majority of the activities revolve around discussion of various topics. No additional materials are supplied, nor are they apparently necessary. An example of a mathematics activity is: "Discuss the importance of numbers and why we use them." The guide is in English; hence, vocabulary lists appear only in English. **MEANS OF EVALUATION:** There is no evidence of material or suggestions designed to measure learner growth.	**PHYSICAL DESCRIPTION:** The four filmstrips are in color and the cartoon-type pictures are quite imaginative. One side of each cassette is in Spanish, the other in English. The guide appears only in English. **SOURCE:** Materials developed especially for ethnic-American needs.
Congruence of Four Instructional Design Constructs	**Overall Assessment and Recommendations**
SUMMARY: Tools used in evaluation are not included and would be difficult to develop, since what is being taught relies heavily on the individual user.	**SUMMARY:** The attempts to relate the five subject areas to these filmstrips appear to be quite stretched. Discussion of the importance of numbers and why we use them has only marginal relevance to mathematics. The social studies activities are more relevant; however, few of the suggestions involve activities other than discussion. The value of this series beyond motivational considerations is indeed questionable.

CARTELES PUERTORRIQUEÑOS

AUTHORS: Curriculum Adaptation Network for Bilingual Bicultural Education, Northeast Regional Adapatation Center (carteles by Juan Maldonado; teacher's guide by Luisa Colón and Carlos Rivera)

PUBLISHER/DISTRIBUTOR/COPYRIGHT: Dissemination and Assessment Center for Bilingual Bicultural Education; 6504 Tracor Lane; Austin, TX 78721/"Carteles," 1973; guide, 1974

COMPONENTS:
Carteles Puertorriqueños (four full-color posters)
Guía para los Carteles Puertorriqueños (teacher's manual)

SUBJECT AREA/GRADE LEVELS: social studies/primary or secondary

LANGUAGE LEVEL/LINGUISTIC CONTENT: Uses language understood by most Spanish-speakers worldwide/1-12.

R&D EVIDENCE: None specified.

INTENTS: *Developer's Rationale:* "We are living in a multicultural country in which each ethnic group has roots and experiences that differ from what is commonly taught as history and culture in the United States. It is therefore exceedingly important that the children become familiar with the cultural and historical experience of their ethnic group"; *Learner Goals:* "...to stimulate learning and appreciation of Puerto Rican culture"; *Learner Objectives:* Objectives are supplied for sample lesson plans, e.g., "After studying a short biography of Doña Lola Rodríguez de Tió, the children will be able to (1) Express the most notable qualities of Doña Lola. (a) She was a poet. (b) She defended women's rights. (c) She wanted liberty for Puerto Rico. (2) To point to San Germán on a map of Puerto Rico."

CONTENTS: *Scope:* The history and culture of Puerto Rico are examined through four units: Mi Raza, Puertorriqueños Ilustres, Mujeres Ilustres, and Gobernadores Puertorriqueños; *Sequence:* Left entirely to the user.

METHODOLOGY: The units are divided into sections, e.g., "Mi Raza" contains los indios, los africanos, los españoles, and el puertorriqueño. Background information is provided for each section followed by a lesson plan which is to be adapted to the individual grade levels by the teacher. The methodology, as presented in the guide, is clearly didactic.

MEANS OF EVALUATION: Evaluation materials have not been included.

ADDITIONAL CONSIDERATIONS/OVERALL ASSESSMENT: *Physical Description:* The posters measure 36" x 24" and are in color. The guide is soft-covered and spiralbound; *Source:* Materials written especially for ethnic-American needs; *Overall Assessment:* With modification, these materials can be used to supplement any social studies program.

UN CHAPARRÓN DE EXPERIMENTOS DE LABORATORIO DE MATEMÁTICAS

AUTHORS: Donald Buckeye et al.

PUBLISHER/DISTRIBUTOR/COPYRIGHT: Midwest Publications Company, Incorporated; P.O. Box 129; Troy, MI 48084/1975

COMPONENTS: *Un chaparrón de experimentos de laboratorio de matemáticas* (teacher's guides - mathematics experiments)

SUBJECT AREA/GRADE LEVELS: mathematics/middle and upper elementary school grades

LANGUAGE LEVEL/LINGUISTIC CONTENT: Uses language understood by most Spanish-speakers worldwide/middle and upper elementary school grades, advanced.

R&D EVIDENCE: None specified.

INTENTS: *Developer's Rationale:* To present mathematics experiments that can be used to supplement the basic mathematics program; *Learner Goals:* Not stated; *Learner Objectives:* Not stated.

CONTENTS: *Scope:* Experiments are provided in the following areas: fundamental operations; sets, numeration, number theory; fractions; probability and statistics; applications; geometry; measurement; and enrichment (inclusive of all areas mentioned); *Sequence:* Entry and exit points are variable for each learner or group of learners, dependent on teacher judgment. Each experiment is rated according to topic, subtopic, and degree of complexity.

METHODOLOGY: Methodology is discovery/experimental.

MEANS OF EVALUATION: Learners are to describe the experiment they have completed and their conclusions. Teacher then decides if responses are satisfactory or not. Suggested questions are designed to give the evaluator an idea of how appropriate the experiment is for the learner and to assess performance.

ADDITIONAL CONSIDERATIONS/OVERALL ASSESSMENT: *Physical Description:* There are five volumes and a teacher's guide to the original English edition; only the first two volumes are available in Spanish. Experiments are available on key-sort cards to make them readily accessible to both learners and teachers. Directions for setting up a "math lab" are provided. *Overall Assessment:* These experiments appear to be valuable for supplementing a mathematics program. They can be used flexibly, allowing for different levels of difficulty, and provide opportunities for active learner participation. Evaluation procedures are rather subjective. It would be helpful if additional volumes were available in Spanish.

EBE'S "NON-CAPTIONED FILMSTRIP" PROGRAMS

TITLE: EBE's "Non-Captioned Filmstrip" Programs

AUTHORS: "Antiguas Civilizaciones," A.J.H. Pullinger and Stephen F. de-Borhegyi; "Los Exploradores," Oscar E. Sams and Charles E. Nowell

PUBLISHER: Encyclopaedia Britannica Educational Corporation; International Division; 425 North Michigan Avenue; Chicago, IL 60611 (The publisher is also the distributor.)

COPYRIGHT: "Antiguas Civilizaciones," 1966; "Los Exploradores," 1960

COMPONENTS:

Antiguas Civilizaciones Indígenas de América (seven noncaptioned filmstrips)
*México en Transición** (eight noncaptioned filmstrips)
Los Exploradores Españoles del Nuevo Mundo (six noncaptioned filmstrips)

*not available for analysis

SUBJECT AREA/GRADE LEVELS: social studies/intermediate; junior high school

LANGUAGE LEVEL/LINGUISTIC CONTENT: Uses language understood by most Spanish-speakers worldwide/5-8, advanced.

R&D EVIDENCE: None specified.

INTENTS: *Developer's Rationale:* (implied) To present and contrast the cultures of the Inca, Maya, and Aztec civilizations. To discuss the explorations of six Spanish explorers.

Learner Goals: Not stated.

Learner Objectives: For each filmstrip in "Los Exploradores Españoles" several objectives are stated. For example, "In this filmstrip we will learn: • the type of man Pizarro was; • how he began his conquests; • the route he took and his battles; • what he won for Spain; [and] • his difficulties prior to triumph."

CONTENTS: *Scope:* "Antiguas Civilizaciones"treats in survey fashion the lifestyles and advances in art and science of the Inca, Maya, and Aztec civilizations. The explorations of Balboa, Cortés, Pizarro, Ponce de Leon, De Soto, and Coronado are covered in "Los Exploradores" in a similar fashion.

Sequence: Left entirely to the user. It would seem important that the comparison filmstrip in "Antiguas Civilizaciones" be shown last.

METHODOLOGY: The methodology is strictly didactic. Learners view the filmstrips and answer content-related questions. Suggested activities for use with "Los Exploradores" are listed with the printed text, e.g., "On a modern map of South America, trace Pizarro's route and the area he conquered."

MEANS OF EVALUATION: Evaluation procedures have not been included.

ADDITIONAL CONSIDERATIONS/OVERALL ASSESSMENT: *Physical Description:* The "Antiguas Civilizaciones" filmstrips run approximatly 40 frames; those in the "Los Exploradores" series average 34 frames each. Filmstrips are in full color and noncaptioned. Teachers or students will have to read captions aloud from the printed texts. Printed matter which appears in the filmstrips is in English only. Filmstrips are packaged in sturdy carboard boxes.

Source: Materials translated from English to Spanish without adaptation.

Overall Assessment: Key elements of instructional design – e.g., learner goals (and objectives in the case of "Antiguas Civilizaciones") and evaluation procedures – have not been developed. The methodology is didactic, allowing for very little learner interaction. Profitable use of these filmstrips as supplements to basic social studies programs is contingent on appropriate adaptation by the users.

EDL COMPUCARDS ARITHMETIC SKILLS PROGRAM

TITLE: EDL CompuCards Arithmetic Skills Program

AUTHOR: Rudolph C. Filacy

PUBLISHER: EDL; 1221 Sixth Avenue; New York, NY 10020 (The publisher is also the distributor.)

COPYRIGHT: 1976

COMPONENTS:

Module 1 Addition/Subtraction Facts (CompuCards Kit: teacher's guide, duplicating masters, and nonconsumable activity, task, and objective cards)
*Module 2 Addition/Subtraction: No Regrouping**
*Module 3 Addition/Subtraction: Regrouping**
*Module 4 Multiplication/Division Facts**
*Module 5 Multiplication Algorithm**
*Module 6 Multiplication Algorithm Extended**
*Module 7 Division Algorithm**
*Module 8 Division Algorithm Extended**

*not available for analysis

SUBJECT AREA/GRADE LEVELS: mathematics 1-6

LANGUAGE LEVEL/LINGUISTIC CONTENT: Dependent upon teacher.

R&D EVIDENCE: "*EDL CompuCards Arithmetic Skills Program* has undergone six years of field testing and revision with students in regular classrooms, remedial situations, and special education classes."

POPULATION CHARACTERISTICS: "The following target populations should benefit from *EDL CompuCards:* (1) Developmental (grades 1-6), (2) Remedial (elementary school through adult students); (3) Special Education (E.M.H. and Learning Disabilities); and (4) Bilingual or Multicultural Classes (French or Spanish, developmental or remedial)"

INTENTS: *Developer's Rationale:* "*EDL CompuCards* is an individualized, supplementary drill program that provides systematic, step-by-step review and reinforcement of basic facts and algorithms for addition, subtraction, multiplication, and division of whole numbers."

Learner Goals: Not stated.

Learner Objectives: Each task has a separate objective, e.g., Task EE: "Subtraction – minuends through 9 ... Task HH: Multiplication – a number 9 or less times ones and tens and hundreds in linear progression ...Task JJJ: Division – hundreds, tens, and ones divided by tens and ones where the digit in the ones place of the divisor is 4, 5, 6, 7, 8, or 9. No remainder."

CONTENTS: *Scope:* Proficiency in computational skills is developed through successful completion of 67 objectives.

Sequence: "The program is based on a set of objectives arranged in sequence from simple to complex...Criterion-referenced tests diagnose student weaknesses and assess mastery. Each student progresses independently through the program at an individual pace, working only on needed activities."

METHODOLOGY: Programed instruction is used throughout. Learners work individually and may not move from one activity card to the next unless mastery is demonstrated. After entry points are established, learners go about working on activity cards individually, checking their own answers and progressing in accordance with set criteria found on the student record sheet.

MEANS OF EVALUATION: A placement test provided for each module is divided into sections containing five or ten items for each objective. Each objective is scored separately for diagnostic purposes. Pretests and posttests, also provided for each objective, are identical; however, only the posttest is required. Pretests give more detailed analysis of learner difficulties than the placement tests and it is recommended that the pretest be used for all objectives on which the learner receives a placement test score of less than 80 per cent. Mastery on posttests is also set at 80 per cent. If mastery is not achieved, reteaching is suggested.

A very detailed "Student Record Sheet" spirit master neatly organizes learner performance on placement tests and optional pretests. The teacher circles the appropriate objective, task code number, or both that the student should work on and the student, in turn, records the date work on the objective begins. As activity cards are completed, learners cross off the appropriate number after the task card code. If all problems on the activity card are correct, the student is to blacken the number. After completing the task, either by finishing all student activity cards or by getting all problems correct on three activity cards, the student is to cross out the task code number. When all tasks of a particular objective are finished, the posttest is taken and the score is added. Success on the posttest is indicated by entering the completion date.

ADDITIONAL CONSIDERATIONS/OVERALL ASSESSMENT: *Physical Description:* None of the material is consumable. Students place a piece of ordinary paper under the activity card and write answers in the appropriate cut-out windows. When the card is turned over, answers can be checked. Materials are contained in sturdy vinyl cases. Task cards, objective cards, and student record sheets are in English, Spansih, and French. The words "ones", "tens", and "hundreds" inexplicably have not been translated from English on the activity cards in modules two and three. Developers suggest Spanish and French words be added by the user. The teacher's guide is entirely in English.

Source: Materials translated from English into Spanish.

Overall Assessment and Recommendations: Although only one module was thoroughly analyzed, it can be inferred that these findings apply to the entire program. Analysts agree that computational skills can be greatly reinforced by this program. Material can be used flexibly as learners must only complete those segments in which they have demonstrated deficiencies.

276

ESTUDIO CULTURAL DE PUERTO RICO

AUTHORS: Jorge Santiago et al.; Bilingual Program ARRIBA; Philadelphia, PA

PUBLISHER/DISTRIBUTOR/COPYRIGHT: Dissemination and Assessment Center for Bilingual Bicultural Education; 6504 Tracor Lane; Austin, TX 78712/1973

SUBJECT AREA/GRADE LEVELS: social studies/5-6

LANGUAGE LEVEL/LINGUISTIC CONTENT: Uses language understood by most Spanish-speakers worldwide. Some culturally charged idioms familiar to Puerto Rican learners are included/intermediate grades, advanced.

R&D EVIDENCE: None specified.

INTENTS: *Developer's Rationale:* "In order to understand the lives of Puerto Ricans in the United States, one must understand why Puerto Ricans migrated to the [continental] United States and the cultural heritage they brought with them"; *Learner Goals:* To examine and understand the Puerto Rican cultural heritage; *Learner Objectives:* Not stated.

CONTENTS: *Scope:* Basic background information--e.g., the Puerto Rican flag and the commonwealth's anthem -- is presented first, followed by units describing Puerto Rico in the 18th century, urban population at the end of the 19th century, cultural background, famous Puerto Ricans, and significant historical events. Topics receive cursory treatment; *Sequence:* The majority of the topics and biographies are arranged in a chronological order.

METHODOLOGY: The methodology is not described. Reading selections are simply followed by content-related exercises.

MEANS OF EVALUATION: Although the exercises described above are termed "evaluation exercises" by the producer, there are no means of assessing learner progress.

ADDITIONAL CONSIDERATIONS/OVERALL ASSESSMENT: *Physical Description:* This text/workbook, in Spanish, consists of 83 pages and is soft-covered. If students are directed to answer all questions on a separate sheet of paper, *Estudio cultural de Puerto Rico* could be reused; *Source:* Materials developed especially for ethnic-American needs; *Overall Assessment:* In terms of an instructional material *Estudio cultural de Puerto Rico* has very little to offer. Intents are poorly described, topics are given cursory treatment and do not mesh well together, methodology is not described, and evaluation procedures are ignored. It is demonstratively inadequate for instructional purposes and would require massive adaptation to be effectively used with learners. The cultural information that is contained is, nonetheless, valuable and needed. As a teacher resource, this material could be used to enrich a social studies program in a coherent fashion.

278

FIVE HISPANIC TOWNS

AUTHOR: Edward Dubrowsky

PUBLISHER/DISTRIBUTOR/COPYRIGHT: Urban Media Materials; 212 Mineola Avenue; Roslyn Heights, NY 11577/1975

COMPONENTS:

Five Hispanic Towns (two sound filmstrips)
Suggestions for Use (teacher's manual)

SUBJECT AREA/GRADE LEVELS: social studies/4-8

LANGUAGE LEVEL/LINGUISTIC CONTENT: Uses language understood by most Spanish-speakers worldwide/4-8, advanced.

R&D EVIDENCE: None specified.

INTENTS: *Developer's Rationale:* To survey five Hispanic towns which share many of the same characteristics; *Learner Goals:* (implied) To learn about the cultural and historical backgrounds as well as the present day conditions of Santiago de los Caballeros, Santo Domingo; San Germán, Puerto Rico; Antigua, Guatemala; Popayán, Colombia; and Taxco, México; *Learner Objectives:* (implied) To become aware of the characteristics these towns share, as well as the idiosyncrasies of each.

CONTENTS: *Scope:* The history and culture of each town are covered in survey fashion; *Sequence:* Left entirely to user.

MEANS OF EVALUATION: Materials designed to measure learner progress are not supplied.

ADDITIONAL CONSIDERATIONS/OVERALL ASSESSMENT: *Physical Description:* The filmstrips are in color. Cassettes are in Spanish on one side, English on the other; *Source:* Materials written especially for ethnic-American needs; *Overall Assessment:* The filmstrips unquestionably portray the cultural and historical characteristics of each of the towns mentioned above; however, they offer very little of instructional value. The *Suggestions for Use* manual contains some conclusions made by the developer and the printed texts (in English) of the filmstrips. Unless these five towns are of particular interest to users (in which case much teacher preparation will be needed in order to augment the materials) they will serve very little purpose beyond entertainment.

279

LA GENTE Y LAS VARIAS OCUPACIONES

TITLE: La Gente y las Varias Ocupaciones

AUTHOR: Thomas Snyder

PUBLISHER: EMC Corporation; 180 East Sixth Street; St. Paul, MN 55101 (The publisher is also the distributor.)

COPYRIGHT: 1975

COMPONENTS:

Pensando en la mañana
Toda clase de ocupaciones
Una visita al hospital
Trabajando con la familia Walton
Teacher's Guide (for all four sound filmstrips above)

SUBJECT AREA/GRADE LEVELS: career education/primary grades

LANGUAGE LEVEL/LINGUISTIC CONTENT: Uses language understood by most Spanish-speakers worldwide/primary grades, advanced.

R&D EVIDENCE: None specified.

INTENTS: *Developer's Rationale:* "There are two main themes embodied in the program. Its primary thrust is to help students understand that they are important in the tasks (i.e., jobs) they are performing now; and that, as adults, they will be important in whatever career activity they choose to follow. The second emphasis is on the wide range of careers one can choose, depending on one's interests, strengths, and values. The careers presented in the filmstrip are vocational, technical, and professional in scope; they fit into the students' experiences and background. The students will see adult men and women using basic skills that they themselves may be learning right now, in school."

Learner Goals: "...to help the student: (1) Understand the career concept; (2) Identify with workers and the concept of work; (3) Develop a positive self-concept; (4) Understand interdependency of careers; (5) Identify different sources of career training; [and] (6) See the intrinsic values of a career."

Learner Objectives: Objectives are stated for each filmstrip and related activities. Those listed for *Pensando en la mañana* are: "After viewing the filmstrip and participating in the related activities and discussions: (1) The student will be able to explain, in simple terms, the relationship of one's individual interests, abilities, and values to the possible choice of a career; (2) Given a list of ten careers shown in the filmstrip, the student will be able to give the importance of each; [and] (3) The student will be able to list three reasons for actively participating in meaningful activities, whether at work, at home, or in recreation."

290

CONTENTS: *Scope:* The content of the program is implicit in the developer's summary of the filmstrips: "Filmstrip 1, *Pensando en la mañana*, shows the student the relationship of one's individual interests, abilities, and values to the ultimate choice of a working career; Filmstrip 2, *Toda clase de ocupaciones*, shows the various levels of training required for different types of careers; Filmstrip 3, *Una visita al hospital*, illustrates the principle of job interdependence in providing a vital community service; [and] Filmstrip 4, *Trabajando con la familia Walton* – developed in cooperation with the producers of the popular television series – shows the wide range of skills required in the television industry. The major emphasis in this filmstrip is on the need for skills at all levels of training."

Sequence: It is suggested by the developer that filmstrips (1) and (2) be viewed prior to (3) and (4) since there are concepts in the first two filmstrip units that learners should be familiar with before viewing the last two.

METHODOLOGY: Descriptions which are provided in the guide for the four filmstrips contain objectives, a synopsis of each filmstrip and jobs represented, suggested introductory activities, the transcript of each filmstrip, and more detailed post-viewing activities. Selection of activities and questions for discussion are left entirely to the user and, of course, will be dependent on grade level and desired depth. Student activity sheets, primarily crossword-type puzzles, are provided in the back of the guide from which duplicating masters can be made; permission is granted. Activities are varied and require active learner participation. Special background information for *Trabajando con la familia Walton* is provided. Teachers are to integrate the material into the lessons as they see fit. Activities are varied and require active learner participation.

MEANS OF EVALUATION: Evaluation materials have not been included.

CONGRUENCE: Procedures for assessment of learner progress have not been outlined. Activities which will minimally assure achievement of goals and objectives are not stated. Rather, activities, intents, and means of evaluation are dependent on adaptation to specific needs.

ADDITIONAL CONSIDERATIONS/OVERALL ASSESSMENT: *Physical Description:* Except for the scripts of the filmstrips, the guide is entirely in English. Filmstrips are in color and clearly narrated. One side of each audiocassette has audible signals, the other inaudible signals.

Source: Materials translated from English into Spanish.

Overall Assessment and Recommendations: Learners are exposed to some 100-plus careers via these uniquely interesting filmstrips. Developer emphasizes that training for different careers varies, and that individuals should like their work and view all jobs as a vital part of society. Purchasers are advised that adaptation to specific needs of learners will have to be undertaken by users.

291

LEARNING ACHIEVEMENT PACKAGES: SOCIAL STUDIES

TITLE: Learning Achievement Packages: Social Studies

AUTHOR: Calexico Intercultural Design; Calexico, California; John Markatos

PUBLISHER: Dissemination and Assessment Center for Bilingual Bicultural Education; 6504 Tracor Lane; Austin, TX 78721 (The publisher is also the distributor.)

COPYRIGHT: 1975

COMPONENT:

Learning Achievement Packages: Social Studies (teacher's manual)

SUBJECT AREA/GRADE LEVEL: social studies/12

LANGUAGE LEVEL/LINGUISTIC CONTENT: Uses language understood by most Spanish-speakers worldwide/12, advanced.

R&D EVIDENCE: The material was "classroom tested during 1970-75 in the Calexico Unified School District."

INTENTS: *Developer's Rationale:* "This publication presents two suggested social studies curriculum units...In total, they represent a cross-section of materials that have been developed to deal with learning problems of students with special language difficulties in grades 7 through 12, in addition to meeting the needs of students in adult education classes."
Learner Goals: "These LAP units are designed for use as elements of the twelfth-grade curriculum for American Democracy. They are directed to informing the students of the legislative function of Congress, as well as the various basic forms of governments and political systems."
Learner Objectives: For each of the LAPs objectives are stated. For example, those for unit one are:

"Given 20 statements which contain 4 responses at the end of the statement, the student will select the correct responses with 80% accuracy.

Given 15 True or False statements, the students will identify the correct responses with 80% accuracy.

Given a series of worksheets dealing with the making and passage of laws, 80% of the students, with 80% accuracy, will complete the worksheets from memory or by seeking answers in the reading assignments."

CONTENTS: *Scope:* The first unit, "An Idea Becomes Law," deals with the differences between congressional and presidential powers in lawmaking. Stages all bills must pass through to become law are outlined. Unit Two, "The State: Forms of Government and political systems," presents four theories offered in explanation of the origins of government. Different forms of governments and political systems are then described. Material is covered comprehensively.

Sequence: Left entirely to user. Entry skills for each LAP unit are specified.

METHODOLOGY: Both units are similarly organized and presented in English and in Spanish. Information for the teacher consists of the rationale, the primary idea of each unit, objectives, and entry skills. Material is organized in outline fashion, to be presented to learners by the teacher. Exercise sheets follow that are to be made into duplicating masters. A didactic methodology is implied.

MEANS OF EVALUATION: One test is provided for each unit, containing multiple-choice, true-false, and essay questions.

ADDITIONAL CONSIDERATIONS/OVERALL ASSESSMENT: *Physical Description:* The manual is softcovered and 133 pages in length. Duplicating masters of worksheets and tests will have to be prepared by the teacher.

Source: Materials written especially for ethnic-American needs.

Overall Assessment: The two units are thoroughly developed and provide a deep study of two social studies topics, which can be helpful supplementary material. In one analyst's opinion, the program can be used effectively at any high school grade level.

293

LEARNING ACHIEVEMENT PACKAGES IN SCIENCES-BIOLOGY

TITLE: Learning Achievement Packages in Sciences-Biology

AUTHORS: Claexico Intercultural Design; Calexico, California; Mark Rosenblum and René Rendón

PUBLISHER: Dissemination and Assessment Center for Bilingual Bicultural Education; 6504 Tracor Lane, Austin, TX 78721 (The publisher is also the distributor.)

COPYRIGHT: 1973

COMPONENT: *Learning Achievement Packages in Sciences-Biology* (teacher's manual)

SUBJECT AREA/GRADE LEVELS: science/9-12

LANGUAGE LEVEL/LINGUISTIC CONTENT: Uses language understood by most Spanish-speakers worldwide/9-12, advanced.

R&D EVIDENCE: The units "were classroom tested during 1970-72 in the Calexico Unified School District."

INTENTS: *Developer's Rationale:* "This publication presents four suggested science curriculum units. In total, they represent a cross-section of materials that have been developed to meet the learning problems of students with special language handicaps in grades 7 through 11."

Learner Goals: The general goals for each unit are outlined, e.g., "The LAP on 'Mitosis' follows the package on 'Cell Theory.' The LAP will help the student to understand how cells reproduce themselves and how this process helps multicellular individuals develop and grow normally."

Learner Objectives: For each unit there are one or more sets of learner objectives, those for unit two, "Mitosis," being:

"The student will state or identify the functions of cell division by mitosis;

The student will arrange in order the stages of mitosis;

The student will count the number of chromosomes in any given stage of mitosis;

The student will calculate the number of cells generated by any given mitotic division; and

The student will draw schematically any given stage of mitosis when the original number of chromosomes is given and identify the parts of chromosomes, and other cell structures that participate in mitosis."

CONTENTS: *Scope:* The four units are Cell Theory, Mitosis, Magnification, and Wounds. The entirety of the first three units is in English and Spanish while the fourth unit utilizes both languages concurrently.

Sequence: A fixed linear route is implied. Entry skills for each unit are specified.

METHODOLOGY: Learners are directed to experiment, to read sections of textbooks (not supplied), to participate in class discussions, and to view films. Introductory sections for each unit supply rationale, objectives, generalizations, required entry skills, learner activities, and necessary media and materials. Activity sheets are provided.

MEANS OF EVALUATION: Evaluation materials are provided for all units. Pre- and posttests are at times identical, as in unit three, and at times must be teacher developed, as in unit four.

ADDITIONAL CONSIDERATIONS/OVERALL ASSESSMENT: *Physical Description:* The manual is softcovered and 75 pages in length. Under the heading, "Materials and Media," many essential materials are listed which are not supplied, e.g., in unit one, learners are assigned reading in the Spanish edition of one of the BSCS programs. In unit four, the movie, *First Aid*, is necessary in addition to *Red Cross First Aid Manual* and *Manual de primeros auxilios*. Duplicating masters of worksheets and tests will have to be prepared by the user.

Source: Materials developed especially for ethnic-American needs.

Overall Assessment: As a supplement to a science program, these units, or adapted segments thereof, can be used for more intense concentration. Users are to be aware that many materials, textbooks as well as filmstrips, are required but not supplied.

LEARNING ACHIEVEMENT PACKAGES IN SOCIAL STUDIES

TITLE: Learning Achievement Packages in Social Studies

AUTHOR: Calexico Intercultural Design, Calexico, California; René Rendón

PUBLISHER: Dissemination and Assessment Center for Bilingual Bicultural Education, 6504 Tracor Lane, Austin, TX 78721 (The publisher is also the distributor.)

COPYRIGHT: 1973

COMPONENTS:

Learning Achievement Packages in Social Studies (teacher's manual)

SUBJECT AREA/GRADE LEVEL: driver education/11(as assessed by analysts)

LANGUAGE LEVEL/LINGUISTIC CONTENT: Uses language understood by most Spanish-speakers worldwide/11, advanced.

R&D EVIDENCE: The units "...were classroom tested during 1970-72 in the Calexico Unified School District."

INTENTS: *Developer's Rationale:* "This publication presents three suggested social science curriculum units. In total, they represent a cross-section of materials that have been developed to meet the learning problems of students with special language handicaps in grades 7 through 11."

Learner Goals: (implied) To learn the theory of automobile operation and maintenance.

Learner Objectives: Objectives precede each unit. The first of two objectives for the second unit is:

"1. Correct maintenance of an automobile.
   a. The student will write a list of routine activities that should be carried out daily for correct maintenance of an automobile.
   b. The student will identify, and write, the principal activities that should be carried out periodically in the maintenance of an automobile.
   c. The student will compare, in writing, the effects of keeping an automobile that has been maintained routinely with the effects of maintenance carried out purely by necessity."

CONTENTS: *Scope:* Students learn safe operation of an automobile (familiarization; and procedures for starting, parking, changing lanes, passing, and turning); maintenance of an automobile (comparing routine and necessitated maintenance, reasons why a car may not start, emergency equipment and procedures, and principal parts); and about tires (proper tire pressure and rotation, what to do in the event of a blow-out, how to change a tire, defects in tires, tire construction, and understanding tire size numbers).

Sequence: Developer states that unit two is not to be covered until both units one and three have been completed successfully. Unit three is not to be covered until unit one has been successfully completed. It can be inferred that entry and exit points are fixed for all learners. Entry skills for each unit are specified.

METHODOLOGY: The first unit is more elaborate than the second and third as it contains descriptions of material to be covered over a 13-day period. Examples of worksheets which can be used or adapted are supplied. The methodology is didactic. Before each lesson, rationale, objective, and requisite skills (e.g., fifth-grade reading level) are presented.

MEANS OF EVALUATION: Unit one has five prepared tests (pre- and posttests mentioned as part of the 13-day sequence not being supplied). Unit two also has five prepared tests, and unit three, three prepared tests.

ADDITIONAL CONSIDERATIONS/OVERALL ASSESSMENT: *Physical Description:* The manual is softcovered, 67 pages in length. Duplicating masters of worksheets and tests will have to be prepared by the user.

Source: Materials developed especially for ethnic-American needs.

Overall Assessment: Certainly of practical value, these three units can be used as part of the driver education program in bilingual situations. Some adaptation by the teacher may be necessary.

LEARNING ACHIEVEMENT PACKAGES IN SOCIAL STUDIES-HISTORY

TITLE: Learning Achievement Packages in Social Studies-History

AUTHORS: Calexico Intercultural Design; Calexico, California; Ed Sigliano et al.

PUBLISHER: Dissemination and Assessment Center for Bilingual Bicultural Education; 6504 Tracor Lane; Austin, TX 78721 (The publisher is also the distributor.)

COPYRIGHT: 1973

COMPONENT: *Learning Achievement Packages in Social Studies-History* (teacher's manual)

SUBJECT AREA/GRADE LEVELS: social studies/junior high school grades

LANGUAGE LEVEL/LINGUISTIC CONTENT: Uses language understood by most Spanish-speakers worldwide/7-11, advanced.

R&D EVIDENCE: The units "...were classroom-tested during 1970-72 in the Calexico Unified School District."

INTENTS: *Developer's Rationale:* "This publication presents four suggested social science curriculum units. In total, they represent a cross-section of materials that have been developed to meet the learning problems of students with special language handicaps in grades 7 through 11."

Learner Goals: Each unit has a general goal and the following, from unit one, is an example: "This unit is designed to orient the junior high school student, in a geographic and economic sense, concerning the land in which he [sic] lives. It is directed as well to informing the student of the background of the American people as a basis of the American heritage and traditions."

Learner Objectives: For each of the four units, a separate set of behavioral objectives is listed. Those for the second unit, entitled "The Constitution," are:

- "Given 20 hypothetical problems to solve, the student will successfully solve 16 (80 per cent) of the problems by using the Constitution for research.
- On an oral level, the students will give the correct response to 80 per cent of the questions presented at the end of each article."

CONTENTS: *Scope:* The four units are America – A Unique Country [English only], The Constitution [English and Spanish], Westward Expansion of the United States [English only], and The American Indian [English and Spanish].

Sequence: Left entirely to user. It can be inferred that any desired sequencing of units will suffice. Entry skills for each unit are specified.

METHODOLOGY: The methodology for each unit varies. Unit two, for example, is to be completed by learners individually, while Unit one makes use of class presentations and grouping. In general, each unit does have an introductory section containing, at least, objectives and rationale. Inexplicably, Units two and four are presented in their entireties in English and Spanish while Units one and three are presented in English only. Most units do require that learners use specified materials (filmstrips and textbooks) not supplied.

MEANS OF EVALUATION: All units have prepared evaluation materials. The types of evaluation questions vary; e.g., in addition to content-related questions Unit two has a pre- posttest and Unit four has an attitude test.

ADDITIONAL CONSIDERATIONS/OVERALL ASSESSMENT: *Physical Description:* The manual is 215 pages long and softcovered. Duplicating masters of worksheets and tests will have to be prepared by the user.

Source: Materials developed especially for ethnic-American needs.

Community Acceptance/Fairness: The term "American Indian" is used throughout, which, although acceptable to some people sensitive to human rights and dignity, offends some people who prefer "Native American."

Overall Assessment: The variation in design, and in language of instruction, is due to the fact that each unit represents the efforts of different authors. The units are probing studies of four areas of U.S. history. Adaptation to local needs will be the teacher's task.

MAQUINAS SIMPLES

TITLE: Maquinas Simples

AUTHORS: Patricio Alvarado and Luis Montalvo; Bilingual Program ARRIBA, Philadelphia, PA

PUBLISHER: Dissemination and Assessment Center for Bilingual Bicultural Education; 6504 Tracor Lane; Austin, TX 78721 (The publisher is also the distributor.)

COPYRIGHT: 1975

COMPONENTS: (each a consumable text/workbook)

Mi primer libro de maquinas simples: trabajo y fuerza
Mi segundo libro de maquinas simples: las palancas
Mi tercer libro de maquinas simples: la rueda y la polea
Mi cuarto libro de maquinas simples: otras modificaciones de la rueda
Mi quinto libro de maquinas simples: el plano inclinado

SUBJECT AREA/GRADE LEVELS: physical science/7-9

LANGUAGE LEVEL/LINGUISTIC CONTENT: Uses language understood by most Spanish-speakers worldwide/7-9, intermediate.

R&D EVIDENCE: None Specified.

INTENTS: *Developer's Rationale:* "The concepts presented in these booklets illustrate how scientific principles are utilized in simple machines and how these simple machines, in turn, can be combined into more complicated mechanisms."

Learner Goals: Not stated.

Learner Objectives: Not stated.

290

CONTENTS: *Scope:* The following areas are treated in survey fashion: book one, work and force; book two, levers; book three, pulleys; book four, modifications of the wheel; book five, the inclined plane. Learners are given a fairly comprehensive, though not at all technical, introduction to simple machines.

Sequence: Material increases in complexity. Learners are to work at their own individual rates.

METHODOLOGY: Instruction appears to be programed. Learners work individually on each book, reading and responding to questions. As responses are made, answers can be checked in the back of each booklet.

MEANS OF EVALUATION: At the end of each booklet there are evaluation questions and an answer sheet. Correction and interpretation of results are left to the teacher.

ADDITIONAL CONSIDERATIONS/OVERALL ASSESSMENT: *Physical Description:* The softbound booklets range from 13 to 21 pages. Illustrations (in black and white) are of very poor quality.

Source: Materials written especially for ethnic-American needs.

Overall Assessment: Although instructions for use are lacking, it is evident from the questions and the text that instruction is programed. There are no alternative routes of instruction to ensure mastery, however, and, though learners can check progress on ongoing questions, they cannot on the final evaluation. The material is very simple, perhaps too simple for the intended grade levels. As supplements to physical science books or to units on simple machines, these books may be of value if used with slow learners.

291

MODERN PUERTO RICO

Identification and Background

TITLE: Modern Puerto Rico

AUTHOR: Edward Dubrowsky

PUBLISHER: Urban Media Materials; 212 Mineola Avenue; Roslyn Heights, NY 11577 (The publisher is also the distributor.)

COPYRIGHT: 1973

MEDIA: sound filmstrips

COMPONENTS:
Modern Puerto Rico, parts 1 and 2 (two filmstrips and two audiocassettes)
Suggestions for Use

SUBJECT AREA: social studies

GRADE LEVELS: Not specified (6-10, in opinion of analysts).

POPULATION CHARACTERISTICS: Not specified.

RESEARCH AND DEVELOPMENT EVIDENCE: None specified.

LINGUISTIC CONTENT: Uses language understood by most Spanish-speakers worldwide.

LANGUAGE LEVEL: 6-10, intermediate.

292

First Instructional Design Construct: Intents

DEVELOPER'S RATIONALE: "There is a new life emerging for the people who live on the island of Puerto Rico...and few people realize it."

LEARNER GOALS: "...misconceptions will be destroyed, and new concepts developed as pupils see the pictures of Puerto Rico's dynamic growth as depicted in this dynamic filmstrip presentation."

LEARNER OBJECTIVES: (implied)
(a) To show the learner how technological progress has affected the economics of the island and, subsequently, the lives of the people.
(b) To orient the learner with the political atmosphere of the island.
(c) To point out the important geographical locations.
(d) To give the learner insight into the culture of Puerto Rico.

Second Instructional Design Construct: Contents

SCOPE: The following topics are covered in depth:
(a) the economic progress of the island;
(b) political atmosphere and the relationship of the island to the continental U.S.;
(c) principal farm products;
(d) housing and education;
(e) artistry;
(f) importance of tourism;
(g) advances in transportation; and
(h) growth of industry and subsequent formation of a middle class.

SEQUENCE: Part one should be viewed before part two, since there is an introductory segment.

293

Third and Fourth Instructional Design Constructs	Additional Considerations
METHODOLOGY: The developer suggests that these filmstrips be used in conjunction with courses in social studies, human relations, foreign language study, English as a second language, or community education and teacher education. No further directions or suggestions are given. **MEANS OF EVALUATION:** There are no accommodations for measurement of learner progress.	**PHYSICAL DESCRIPTION:** The two filmstrips are in color and accompanied by cassettes (records also available) in English and Spanish. They run about eight-and-one-half minutes each. The narrator speaks very clearly. The texts are presented in both Spanish and English in the short softbound suggestions booklet. **SOURCE:** Materials written especially for ethnic-American needs.
Congruence of Four Instructional Design Constructs	**Overall Assessment and Recommendations**
SUMMARY: The constructs are fairly congruent, with the exception of methodology, which is not at all descriptive, and the failure on the developer's part to include evaluation materials or suggestions.	**SUMMARY:** This program defines and describes progress in Puerto Rico in terms of industrial expansion and tall buildings. If one considers that the purpose of the program is to destroy misconceptions of Puerto Rico as backward and underdeveloped, this is understandable; nevertheless, analysts get the feeling that Puerto Rico is being "marketed," as many frames depict factories, highways, and housing projects. Certainly, as a bilingual material it is appropriate for use but the major decision for its use hinges on the focus of the basic program it is to supplement. Very little insight is given to the user regarding the use of the materials, and there are no suggestions for measuring student progress.

EL MUNDO DEL TRABAJO

TITLE: El Mundo del Trabajo

AUTHORS: Thomas S. Snyder et al.

PUBLISHER: EMC Corporation; 180 East Sixth Street; St. Paul, MN 55101 (The publisher is also the distributor.)

COPYRIGHT: 1975

COMPONENTS:

La gente hace la escuela (sound filmstrip)
Trabajo conjunto en una fábrica de jugetes (sound filmstrip)
Trabajando en una linea aérea (sound filmstrip)
¡Cuidado mundo, que aquí vengo! (sound filmstrip)
Teacher's Guide

SUBJECT AREA/GRADE LEVELS: career education/primary grades (1-5, as assessed by analysts)

LANGUAGE LEVEL/LINGUISTIC CONTENT: Uses language understood by most Spanish-speakers worldwide/1-5 advanced.

R&D EVIDENCE: None specified. A feedback card soliciting teachers' opinions of the program is provided.

INTENTS: *Developer's Rationale:* "Helping children to develop positive attitudes about themselves and the world of work is the main thrust of the program. *El mundo del trabajo* provides a comprehensive view of the world of work and various careers, always emphasizing the importance of each individual job and the feeling of self-worth each worker holds when doing a task to the best of his or her ability. The program seeks to develop in the children an awareness that their education helps to prepare them for a career. It emphasizes the importance of interpersonal relationships and further develops these skills."

Learner Goals: "Through the viewing of sound filmstrips, discussion of their meaning and content, and participation in related activities, *El mundo del trabajo* stimulates and helps the student to: (1) Develop a positive and realistic self-concept; (2) Develop an awareness of and respect for others and their actions; (3) Identify with the concept of work as a valued institution and realize that it is desirable to work; (4) Acquire and increase such interpersonal skills as cooperating with and helping others; (5) Acquire the discipline of work; and (6) Develop a knowledge of workers and careers."

Learner Objectives: Up to six objectives are listed in the guide for each filmstrip and related activities. Those given for the second filmstrip are: "(1) To show that all work has dignity and worth; and (2) To realize that teamwork is important and that every worker's part is essential in helping to get the job accomplished."

CONTENTS: *Scope:* The content of the program is implicit in the developer's summaries of the filmstrips.

"*La gente hace la escuela* is a sound filmstrip introducing the children to the world of work through their school environment and their role in it.

"*Trabajo conjunto en una fábrica de juguetes* is a sound filmstrip showing a tour through a toy factory, tracing the design and production of a toy camper. It emphasizes the importance of every individual worker in the making of a toy at the factory.

"*Trabajando en una línea aérea* is a sound filmstrip which introduces the child to the many jobs necessary to run an airline.

"*¡Cuidado mundo, que aquí vengo!* is a sound filmstrip which stresses the uniqueness of each child and his or her importance as a contributor to his social and work environment. It concludes by emphasizing the importance of acquiring certain interpersonal skills before entering the world of work."

Sequence: Due to the framework described above, the developers suggest the fourth filmstrip be presented last. The sequence of the other filmstrips is left entirely to the user.

METHODOLOGY: Descriptions which are provided in the guide for each filmstrip contain objectives, a synopsis of the filmstrip and jobs represented, suggested introductory activities, the transcript of the filmstrip, and more detailed follow-up discussion questions and activities. Selection of activities and questions for discussion are left entirely to the user and, of course, will be dependent on grade level and desired depth. Student activity sheets are provided in the back of the guide from which duplicating masters can be made; permission is granted. Activities are varied and require active learner participation. The last section of the guide contains additional discussion activities from which "mini-units," as the developers call them, can be developed.

MEANS OF EVALUATION: Assessment procedures have not been provided.

CONGRUENCE: A minimum of activities which learners must complete in order to achieve the objectives is not specified. A means of evaluation has not been developed. Activities, intents, and means of evaluation are dependent on adaptation to specific needs.

ADDITIONAL CONSIDERATIONS/OVERALL ASSESSMENT: *Physical Description:* Except for the scripts of the filmstrips, the guide is in English. Filmstrips are in color and clearly narrated. One side of each audiocassette has audible signals, the other inaudible signals. Materials are packaged in a sturdy cardboard box.

Source: Materials translated from English into Spanish.

Overall Assessment: In these filmstrips and activities, many careers are described along with the development of positive attitudes toward all careers and toward the learners themselves. The contents of the filmstrips, *Trabajo conjunto en una fábrica de jugetes* in particular, are quite interesting. Evaluation materials and adaptations of suggested activities will, however, have to be made by users.

PEOPLE OF THE CITY

TITLE: People of the City

AUTHOR: Edward Dubrowsky

PUBLISHER: Urban Media Materials, Inc.; 212 Mineola Avenue; Roslyn Heights, NY 11577 (The publisher is also the distributor.)

COPYRIGHT: 1969

COMPONENTS:
People of the City, parts 1 and 2 (sound filmstrips)
Suggestions for Use

SUBJECT AREA/GRADE LEVELS: social studies/Not specified (4-8 assessed by analysts).

LANGUAGE LEVEL/LINGUISTIC CONTENT: Uses language understood by most Spanish-speakers worldwide/4-8, simple.

R&D EVIDENCE: None specified.

INTENTS: *Developer's Rationale:* "...to instill an appreciation for the differences that give each ethnic group its sense of identity."

Learner Goals: "...the viewers of this program should realize that *all people have value* and that it is important *to be proud of who and what you are.*"

Learner Objectives: The objectives take the form of three concepts. The student will realize: "(1) Our society is not a 'melting pot' – where individuals of all nations are melted into a new race of men [sic]. (2) Our society is a multi-ethnic culture where each group maintains its heritage. (3) The maintaining of cultural heritage is called ethnic identity, which is evident in each group's language, food, dress, music, and special holidays and customs."

293

CONTENTS: *Scope:* This program proposes to explore "...the multi-ethnic nature of an urban community and to develop the concept that each ethnic group has its own culture and tradition. This variety adds a new richness to city life. The events are Afro-American Day in Harlem; The Feast of Saint Anthony [Little Italy] ; New Year Celebration in Chinatown; Puerto Rican Folklore Festival; and West Indian Day Parade.

Sequence: The material does not increase in difficulty; however, since part one contains an important introductory section it should be viewed first.

METHODOLOGY: There is no discussion of methodology beyond suggestions of further study of each ethnic group via bulletin boards, discussions, reports, visits to ethnic areas of a city, food and music festivals, using holidays to focus on ethnic groups and their contributions, and developing a geography lesson around the native countries of ethnic groups studied.

MEANS OF EVALUATION: There are no evaluation materials in this program.

CONGRUENCE: The methodology construct could be given a little more consideration by the developer, and there are no evaluation procedures.

ADDITIONAL CONSIDERATIONS/OVERALL ASSESSMENT: *Physical Description:* The program consists of two full-color filmstrips and two audiocassettes with material in both English and Spanish. Records are available as alternatives to the audiocassettes. The guide is a softbound two-page booklet.

Source: Materials written especially for ethnic-American needs.

Overall Assessment: Learners are given a sensitivity to the multiethnic composition of large urban centers. They are made to feel proud of the cultural backgrounds and to see them portrayed as integral parts of city life. Many ethnic groups also important to the city are not represented; however, the developer states future programs will highlight other groups.

293

PRIMERAS AVENTURAS EN CIENCIAS

TITLE: Primeras Aventuras en Ciencias

AUTHOR: José H. Díaz Cubero

PUBLISHER: Cultural Puertorriqueña, Inc.; Avenida Fernandez Juncos, 1406, PDA 20; Box 8863 Fernandez Juncos Station; Santurce, Puerto Rico 00910 (distributed by Lectorum Publications; 137 West 14th Street; New York, NY 10011)

COPYRIGHT: 1973

COMPONENTS:

Primeras aventuras en ciencias (consumable text/workbook)
Guía para el maestro (teacher's guide)

SUBJECT AREA/GRADE LEVEL: science/preschool

LANGUAGE LEVEL/LINGUISTIC CONTENT: Uses language understood by most Spanish-speakers worldwide/preschool, beginner-simple.

R&D EVIDENCE: None specified.

INTENTS: *Developer's Rationale:* "Preschool science is directed fundamentally at sensory development, since the senses are the entrance way of knowledge."

Learner Goals: "The objective of science at the preschool level is not to accumulate information nor achieve more or less ambitious goals. Fundamentally, it consists of the exploration of the surrounding world and the discovery of reality."

Learner Objectives: Brief objectives for each lesson are stated in the guide, e.g., "to recognize the color orange...to identify pleasant and unpleasant odors...to distinguish objects in comparative terms."

CONTENTS: *Scope:* The units focus on sensory development, recognition of geometric shapes, comparison of size and quantity, properties of objects, sets, classification of animals, and objects that change.

Sequence: Material becomes gradually more complex, beginning with the exercising of one sense at a time and later of as many senses as possible in observation. The approach is developmental and, accordingly, the route is linear. Entry and exit points are fixed for all learners.

METHODOLOGY: The developer supplies useful suggestions (including objectives, requisite knowledge, procedures, and a listing of necessary materials) for teaching each lesson. Senses are stimulated to increase the learners' perceptive capacities, and exercises build up to requiring observation, discrimination, comparison and contrast, and, to a lesser degree at this level, identification and application. The principal teaching method is discovery.

MEANS OF EVALUATION: Evaluation, states the author, allows the teacher to judge the extent to which objectives have been achieved and to determine if additional instruction is necessary. There are prepared evaluation lessons in the guide; however, not all objectives are tested.

ADDITIONAL CONSIDERATIONS/OVERALL ASSESSMENT: *Physical Description:* The student's text/workbook is hardcovered and colorfully illustrated; the guide is softcovered.

Source: Spanish materials developed abroad.

Overall Assessment: This material could serve beneficially to supplement early childhood or kindergarten programs with any U.S. Spanish-speaking population. It is developmental and provides numerous opportunities for learners to sharpen and to practice observation skills.

PROGRAMA PARALELO DE CREATIVIDAD

TITLE: Programa Paralelo de Creatividad

AUTHOR: Emiliano Martínez, et al.

PUBLISHER: Santillana, S.A.; Elfo, 32; Madrid-27 (distributed by Santillana Publishing Company; 575 Lexington Avenue; New York, NY 10022)

COPYRIGHT: 1974

COMPONENTS:
Tecnologia educativa 6 S (teacher's guides)

SUBJECT AREAS/GRADE LEVELS: language arts, social science, mathematics, natural science/6-8

LANGUAGE LEVEL/LINGUISTIC CONTENT: Uses language understood by most Spanish-speakers worldwide/6-8, advanced.

R&D EVIDENCE: None specified.

INTENTS: *Developer's Rationale:* "It is undeniable that, although an educational program is oriented toward convergent ends, it can encourage, in many cases, creative work."

Learner Goals: "To observe from different perspectives, to look for more than one answer, to break rigid schemes, to lean not upon single suppositions; that is, to state, associate, select, restructure the unusual and apparently useless, to venture upon unexplored paths, to probe in order to produce something new, in order to better understand, and to feel oneself to be the composer. These and other forms of behavior are those which this *Programa de Creatividad* claims to awaken and exercise."

Learner Objectives: For each area – language arts, social science, etc. – general objectives are given. In addition, objectives are stated for each activity. For example, the following statement is given for a sixth-grade lesson in the area of language arts (exercise title: "If Things Could Talk"): "This activity requires the student to personify familiar objects. We intend to develop the normal abilities that make creative thought possible (fluidity, flexibility, and originality) and to stimulate the imagination and affective identification."

CONTENTS: *Scope:* Activities involve opportunities for divergent thinking in all four subject areas.

Sequence: Learners follow a fixed linear route. Activities are to be used as they are called for in the workbooks of the basic series.

METHODOLOGY: A considerable amount of background information directed to the teacher appears before the guidelines for activities. For each activity, teachers are given a brief description, purpose, and suggested modes of presentation. The methodology is inquiry. Content is clearly related to that which is covered in the basic programs; however, the focus of *Programa de Creatividad* is on analysis, conjecture, and expression of personal feelings. The introductory section to the social science activities in level seven states: "The basic program is concerned with clarity and precision, while the *Programa de Creatividad* is concerned more with personal attitudes..."

MEANS OF EVALUATION: Evaluation serves the purpose of locating both learners who need help in expressing themselves creatively and those who have creative talent. Developers supply examples of how creative work can be evaluated in terms of flexibility, fluidity, and originality. It is exploratory as opposed to qualitative.

ADDITIONAL CONSIDERATIONS/OVERALL ASSESSMENT: *Physical Description:* All necessary workpages are contained in the workbooks of the corresponding Santillana basic series. Only the three softcovered teacher's guides need be purchased.

Source: Materials developed abroad without adaptation for use in the United States.

Overall Assessment: If Santillana's basic programs are not being used, *Programma de Creatividad* will, of course, be of little use to bilingual educators. Used in conjunction with the basic programs, however, it does present opportunities to break up the regular classroom routine with more stimulating learning experiences.

PUERTO RICO AND THE PUERTO RICANS

Identification and Background

TITLE: Puerto Rico and the Puerto Ricans

AUTHOR: Edward Dubrowsky

PUBLISHER: Urban Media Materials; 212 Mineola Avenue; Roslyn Heights, NY 11577 (The publisher is also the distributor.)

COPYRIGHT: 1969

MEDIA: sound filmstrips

COMPONENTS:
The Puerto Ricans (filmstrip and audiocassette)
Puerto Rico (filmstrip and audiocassette)
Suggestions for Use

SUBJECT AREA: social studies

GRADE LEVELS: Not specified (4-8, in analysts' opinion).

POPULATION CHARACTERISTICS: (implied) Puerto Rican-American population.

RESEARCH AND DEVELOPMENT EVIDENCE: None specified.

LINGUISTIC CONTENT: Uses language understood by most Spanish-speakers worldwide.

LANGUAGE LEVEL: 4-8, simple.

304

First Instructional Design Construct: Intents

DEVELOPER'S RATIONALE: (implied) To demonstrate how Puerto Rican-Americans live on the island of Puerto Rico and in urban areas in the continental U.S.

LEARNER GOALS: "...to develop an understanding and appreciation of the Puerto Rican people."

LEARNER OBJECTIVES: (implied) To make the learner aware of:
(a) the culture and natural beauty of the island of Puerto Rico;
(b) the lifestyles of Puerto Ricans living on the island;
(c) how Puerto Ricans live and form a valuable part of everyday life in mainland cities;
(d) the pride and cultural contributions Puerto Ricans have brought to mainland cities.

Second Instructional Design Construct: Contents

SCOPE: Part one, "The Puerto Ricans," deals with the following topics:
(a) Why Puerto Ricans have moved to the mainland.
(b) The consequences of leaving one's place of birth.
(c) Why Puerto Ricans settle in or near large cities.
(d) How Puerto Ricans become assimilated into the scene of city life.
(e) The cultural contributions the cities reap from Puerto Rican-Americans.
(f) The economic contributions Puerto Rican people make to the cities.
(g) The pride and positive outlook the Puerto Ricans have on their role in the city.

Part two, "Puerto Rico," treats the following topics:
(a) The beauty of the island of Puerto Rico.
(b) The rich historical past as reflected today.
(c) Cities in Puerto Rico.
(d) The lifestyles of the rural regions.
(e) Progress in the rural regions.
(f) Education in Puerto Rico.
(g) The relationship between Puerto Rico and the United States.

SEQUENCE: Although the filmstrips are labeled "part one" and "part two," they can be used in either order.

305

Third and Fourth Instructional Design Constructs

METHODOLOGY: For the most part, the methodology is left entirely to the user. The developer's treatment is limited to a few suggestions for use, e.g., as a supplement to a social studies unit, as a human relations study, or as a community education and teacher training aid.

MEANS OF EVALUATION: Materials designed to assess student progress are not provided.

Congruence of Four Instructional Design Constructs

SUMMARY: It would be helpful if some additional instructions were provided for the use of this material beyond the mere showing of the filmstrips. Evaluation materials have been totally excluded.

Additional Considerations

PHYSICAL DESCRIPTION: "Puerto Rico and the Puerto Ricans" consists of two filmstrips and two cassettes. The cassettes are in both Spanish and English, as are the printed texts, which run between seven and eight minutes each. (Records are available as alternatives to cassettes.) The narrator speaks very clearly in Spanish as well as in English. The pictures are in color and current, and it's likely that the learner familiar with New York City will recognize some of the scenes.

SOURCE: Materials written especially for ethnic-American needs.

CURRENCY: There is an effort to relate the past – both historical and cultural – to the present-day lives of Puerto Rican-Americans.

Overall Assessment and Recommendations

SUMMARY: As a supplement to a subject area related to the social studies, these filmstrips would be recommended for use in the bilingual bicultural classroom. Though lacking depth and some design constructs, the filmstrips provide fairly comprehensive coverage of the varied lifestyles of the Puerto Rican people and give Puerto Rican children an awareness of their rather complex background and of how they fit into the mainstream of contemporary American society. The material is current and very relevant to the Puerto Rican living in continental urban areas, especially New York City. Since the cassettes and text guides are in English and Spanish, these filmstrips can be used with children of any background, with the aim of developing an understanding and appreciation of Puerto Rican-Americans.

SISTEMA DE MEDIDAS/MEASUREMENT SKILLS

TITLE: Sistema de Medidas/Measurement Skills

AUTHORS: Roger W. Bodley and Robert C. Goodman; Flexible Learning Systems, Incorporated

PUBLISHER: Encyclopaedia Britannica Educational Corporation; International Division; 425 North Michigan Avenue; Chicago, IL 60611 (The publisher is also the distributor.)

COPYRIGHT: 1972

COMPONENTS: *Pulgadas y Fracciones/Inches and Fractions* (measurement skills kit)
Centímetros y Decimales/Centimeters and Decimals (measurement skills kit)

SUBJECT AREA/GRADE LEVELS: mathematics/1-3 (as assessed by analysts)

LANGUAGE LEVEL/LINGUISTIC CONTENT: Uses language understood by most Spanish-speakers worldwide/1-3, advanced.

R&D EVIDENCE: None specified.

INTENTS: *Developer's Rationale:* (implied) To teach selected measurement processes via an audio-tutorial program.

Learner Goals: (implied) To learn how to measure using an English and a centimeter ruler.

Learner Objectives: Objectives are stated for each kit. For example, those applicable to *Centimeters and Decimals* are: "(a) The student will measure the length of objects using a ruler calibrated in centimeters and tenths of centimeters. He [sic] will respond by first saying the number of the whole centimeters and then indicate the additional fractional part of a centimeter to the nearest one-tenth centimeter line. (b) The student will interpret oral and written centimeter measurement data given in decimal form as evidenced by his [sic] ability to point to the measurement on a centimeter ruler. (c) The student will record measurements in writing using decimal notation to the nearest one-tenth of a centimeter."

CONTENTS: *Scope: Inches and Fractions:* In this "lesson," as it is termed by the developers, students learn how to measure to the nearest one-fourth inch and to recognize fractions written numerically. In the *Centimeters and Decimals* lesson, students learn to use a centimeter ruler and to express the fractional part of a centimeter.

Sequence: Inches and Fractions is simpler than *Centimeters and Decimals* and should be used first. Entry and exit points are fixed for all learners. The route is linear, increasing gradually in complexity.

METHODOLOGY: The program is called "audio-tutorial" by the developers, i.e., learners work individually in conjunction with instructions from an audiocassette, with visual stimuli via the book, and with tactile experiences from handling materials and equipment. Instruction for this segment is programed. Setting-up-the-learning-station instructions are provided along with objectives and prerequisite skills and concepts, e.g., *Inches and Fractions:* "Before he [sic] attempts this lesson a child must be able to: a. Count to 12 from memory. b. Recognize numerals 1 through 12 and be able to say their names." After all learners have completed the audio presentation, they participate in group activities and exercises in conjunction with the filmstrips. This segment is not programed.

MEANS OF EVALUATION: As part of the filmstrip activities, each kit has evaluation exercises.

CONGRUENCE: The constructs are fairly congruent.

ADDITIONAL CONSIDERATIONS/OVERALL ASSESSMENT: *Physical Description:* Both kits are boxed in sturdy vinyl cases and contain a filmstrip, audiocassette, prepared worksheets, a nonconsumable spiralbound book, plastic manipulatives, and plastic rulers. In addition, *Centimeters and Decimals* contains a magnifying glass. The teacher's guide section of the book in *Centimeters and Decimals* is in Englsih and Spanish while the guide for *Inches and Fractions* is in English only. The audiocassette is in English on one side, Spanish on the other.

Source: Materials translated from English into Spanish.

Overall Assessment and Recommendations: This measurement skills kit can be a valuable supplement to basic mathematics instructional materials. Although students learn measurement processes in both the English and metric systems, only a small part of each system is covered. Each audio-tutorial presentation provides roughly 15 minutes of instruction for each learner. If a teacher uses the filmstrip activities, it is doubtful that more than two-to-three lessons could be developed from each kit.

SOCIAL STUDIES BILINGUAL MULTICULTURAL GUIDE

TITLE: Social Studies Bilingual Multicultural Guide

AUTHOR: Fort Worth [Texas] Public Schools Bilingual Education Program

PUBLISHER: Dissemination and Assessment Center for Bilingual Bicultural Education; 6504 Tracor Lane; Austin, TX 78721 (The publisher is also the distributor.)

COPYRIGHT: 1975

COMPONENTS: *Social Studies Bilingual Multicultural Guide I-II* (teacher's guides)

SUBJECT AREA/GRADE LEVELS: social studies; 5-6 (In the opinion of the producer, the materials can be used at other elementary school grade levels and with junior high school learners.)

LANGUAGE LEVEL/LINGUISTIC CONTENT: Dependent upon teacher.

R&D EVIDENCE: None specified.

INTENTS: *Developer's Rationale:* "The lessons in this publication focus on the contributions which people of various ethnic groups have made to the development and growth of this nation. Being exposed to culturally relevant aspects of their heritage, the students gain a broader sense of identity and self-worth. The activities are designed to be used in a multicultural setting, especially for Mexican American, Anglo [sic], and Black students."

Learner Goals: Goals may be inferred from the following statement: "The content of the lessons is designed to provide learning experiences which will enhance skills, positive attitudes, and behaviors essential for the realization of the student's maximum potential."

Learner Objectives: Learner objectives are provided for each lesson. Here is a sample from the lesson, "Lincoln, Juárez, King": "At the conclusion of this lesson, the student will: List in writing, in Spanish or English, at least 5 facts about each of the characters he [sic] has studied (Lincoln, Juárez, King). Write a short essay in the language of his [sic] preference describing why he [sic] thinks each of these men is important. Be able to define in the language of his [sic] preference 20 of the words in the vocabulary list. Answer 1 of 3 questions provided in Evaluation."

CONTENTS: *Scope:* Lessons fall into four different categories: the study of government (e.g., "Your Government and Mine," "Who Is a Citizen?", "The Legislature"); the study of culture (e.g., "Cultural Traits: Differences and Similarities," "Has Our Culture Changed?", "One Individual: Numerous Groups"); social phenomena (e.g., "Ways of Buying," "Why People Use Drugs," "Places to Worship in My Barrio"); and the study of Mexican-American culture (e.g., The Exploration and Development of the Southwest, Mexican-Americans: Contributions, Successes, Challenges). Developers state that material used in some of the lessons is correlated to locally approved textbooks from the state (i.e., Texas) list.

Sequence: It is implied, by their very arrangement, that lessons dealing with the legislature, the presidency, and the judiciary be presented together. Sequence is otherwise left to the user.

METHODOLOGY: Material is presented in English and in Spanish so that activities can be completed by all learners, regardless of language proficiencies. It is suggested that learners be grouped according to their degree of bilingualism. Detailed procedural instructions are supplied; they contain notes to the teacher, the basic concept of the lesson, objectives, vocabulary in English and Spanish, necessary materials and directions for use, learning activities, evaluation activities, and optional activities. Activities generally involve active learner participation.

MEANS OF EVALUATION: Evaluation questions designed to test achievement of objectives are part of each lesson. Activities are short and learners are permitted to respond in either language.

CONGRUENCE: The elements of instructional design appear to be quite congruent.

ADDITIONAL CONSIDERATIONS/OVERALL ASSESSMENT: *Physical Description:* The guides are softcovered and spiralbound. All required materials – i.e., books, transparencies, and films in particular – are not supplied. Some form of duplicating masters of activity pages and tests will have to be made by the user.

Source: Materials developed especially for ethnic-American needs.

Overall Assessment and Recommendations: Numerous supplementary social studies lessons can be derived from these guides. Lessons are fully developed, neatly organized, and can, in all probability, be adapted and used above as well as below the fifth and sixth grades.

TRABAJO MANUAL

Identification and Background

TITLE: Trabajo Manual

AUTHOR: María Josefa Herrada Herrera

PUBLISHER: Cultural Centroamericana, S.A.; Guatemala (distributed by Lectorum Publications; 137 West 14th Street; New York, NY 10011)

COPYRIGHT: 1965-70

MEDIUM: print (consumable workbooks)

COMPONENTS:

Libro A
Libro B
Pre-primario
Primer libro
Libro segundo

SUBJECT AREA: arts and crafts

GRADE LEVELS: preschool-2

POPULATION CHARACTERISTICS: Not specified.

RESEARCH AND DEVELOPMENT EVIDENCE: None specified.

LINGUISTIC CONTENT: Uses language understood by most Spanish-speakers worldwide.

LANGUAGE LEVEL: Language level is not applicable, because language is used only in addressing the teacher.

312

First Instructional Design Construct: Intents

DEVELOPER'S RATIONALE: To instill in the children a love of beauty and to "...stimulate voluntary activity which will act as a main means in their education and instruction..."

LEARNER GOALS: Except for the two kindergarten-level books – *Libro A* and *Libro B* – each book has separate learner goals. Examples selected from each of the books follow:

"To involve the children in expressing their ideas at the sandtable...To teach the children to shred paper...To teach the children to carry out activities using cardboard...To involve the children in making toys...To expand the ability to select and distinguish materials and instruments for different activities...To learn how to make useful and attractive things from waste materials..."

LEARNER OBJECTIVES: The following are examples of those listed in *Libro A* and *Libro B*:

"...To develop neatness, exactness, and order...To stimulate the children to overcome difficulties...To acquire eye-hand coordination...To inculcate habits of cleanliness, order, and care of materials...to develop the ability to follow simple instructions..."

In the remaining books there are general objectives, e.g., "...To enrich the learner's experience...To develop observation and appreciation...To complete activities in groups through cooperation...To stimulate the [learner's] creative capacity..." Specific objectives are presented as well, e.g., "...To involve the children in sandtable activities...To involve the children in construction of blocks...To develop habits of cleanliness, order, and care of materials...To teach the children to select and use necessary materials...To teach learners to plan work..."

Second Instructional Design Construct: Contents

SCOPE: The manual skills are manifold. Cutting, drawing, coloring, painting, identifying geometric shapes, and pasting are only a few of the major categories of activities.

SEQUENCE: The route is linear and the entry and exit points are the same for all learners.

313

Third and Fourth Instructional Design Constructs

METHODOLOGY: Each activity is accompanied by a description of procedure. The entire group is expected to reach the same level of performance. The developer states that "... every exercise has been carefully graduated to permit easy and steady progress..."

MEANS OF EVALUATION: There are no tools for evaluation provided by the developer.

Congruence of Four Instructional Design Constructs

SUMMARY: The description of methodology, which is limited to simple procedural instructions, appears to be highly inadequate if one is concerned with achievement of the goals and objectives. In addition, evaluation materials are not given, nor evaluation strategies suggested.

Additional Considerations

PHYSICAL DESCRIPTION: The five books are softcovered and consumable. Most of the pages are made of light-weight cardboard. The colors are bland. The pages cannot be torn out easily.

SOURCE: Spanish materials developed abroad without adaptation for use in the United States.

COMMUNITY ACCEPTANCE/FAIRNESS: Little girls are expected to learn the basics of sewing, an unmistakable example of sex-role stereotyping. Another of the developer's stated purposes is "...to cultivate in them [children] the love of God and admiration and respect for all his creations."

ACCURACY: One spelling error was reported which in no way affects the effectiveness of the materials; in *Libro B*, "ciclo" is spelled "siclo."

Overall Assessment and Recommendations

SUMMARY: The activities seem at times much too difficult for the children. Such activities would probably have to be eliminated by the user. Other activities may be fun for the children but do little to help fulfill the objectives. Last, there is no way of measuring what the child has learned after having completed the required activities.

Synthesized Analyses of Professional Materials

In the process of collecting bilingual education materials for analysis, a small number of professional materials were received. These materials are to be distinguished from teacher training materials – those commonly used at the college level for teacher-preparation purposes or those which may be part of a teacher's professional library – in that they offer suggestions and material which can be directly applied to a teaching situation with a modicum of adaptation. Since they are not instructional materials, a modified reporting format has been used.

¡APRENDEMOS CON GUSTO!

AUTHORS: Regional Project Office Publication; San Bernardino, CA

PRODUCER/DISTRIBUTOR/COPYRIGHT: Dissemination and Assessment Center for Bilingual Bicultural Education; 6504 Tracor Lane; Austin, TX 78721/1975, revised edition

PURPOSE: "*¡Aprendemos con Gusto!* is a series of lesson plans in the form of task cards which have been designed to implement Spanish language usage in the classroom in many areas of instruction... [and] to provide groups of bilingual children with activities that will promote self-motivated learning."

PROFILE: The 70 task cards supplied in this manual encompass various subject areas: art, mathematics, reading, science, writing, and social studies. Adaptation contingent upon local dialectal and cultural backgrounds of learners, as well as on the attention span and ages of learners, is expected. The activities in this manual are suggested for the first through the sixth grades. Teachers may find one task card can be divided into several or, depending on learner responses, they can develop new tasks. "The worth of the cards depends on whether they are suitable for the children who will use them, whether the instructions are clearly stated, whether a sequence of activities is provided, if some evaluation is indicated, and if necessary materials are listed." Only general evaluation suggestions are made, however.

A group leader is held responsible for assembling necessary materials and for the completion of the activities by the four-to-six-member group. Most activities involve areas other than direct language instruction. Some tasks demand specific answers. Open-ended questions encourage discovery of several answers, while still others encourage interest and inquiry.

The manual is softcovered and 120 pages in length. Task cards can be made simply or elaborately. Tagboard and a felt marker will suffice. The introduction to the manual and the purpose- and preparation-of-materials descriptions for each card are in English.

OVERALL ASSESSMENT: Teachers will find that the small-group, learner-centered tasks in this manual can easily supplement many areas of the basic curriculum. Language as a vehicle of communication does, however, receive primary focus. Most radical adaptation will be necessary for use with learners above the third grade since the tasks, as presented in the manual, are elementary in nature and of marginal difficulty. The material is recommended to teachers of any U.S. Spanish-speaking group.

313

EACH ONE LEARNING: A SMALL GROUP PROCESS MANUAL FOR TEACHERS

AUTHORS: Jean M. Baker et al.

PRODUCER/DISTRIBUTOR/COPYRIGHT: Dissemination and Assessment Center for Bilingual Bicultural Education; 6504 Tracor Lane; Austin, TX 78721/1974 printing

PURPOSE: "The objectives of this manual are to (1) outline the educational model utilized to implement the group approach to bilingual education, and (2) motivate the reader to try this approach by providing a description of the knowledge and skills necessary for implementing it."

PROFILE: The manual outlines procedures for implementation of small heterogeneous (in language ability, academic ability, ethnic backgrounds, and sex) grouping. This approach "...facilitates the natural method of language learning by offering the potential for greatest utilization of the environmental and social conditions of the classroom." Further advantages are described, as well as the learning environments; procedures and techniques for grouping; planning and selection of activities in the areas of mathematics, Spanish language arts, science, and writing; ongoing considerations; evaluation (both of learner performance and group functions); the teacher's role; and creation of a conducive psychological atmosphere (including the importance of culturally relevant activities and materials). Participation and leadership skills are mentioned briefly; however, users are directed to *They Help Each Other Learn* for details.

The authors claim skills "...should be defined behaviorally and systematically taught if open, multicultural classroom is to become a model of education for human effectiveness..." The three areas of concentration are cognitive skills, interpersonal skills, and communication skills. Guidelines for organization of learning centers define the Open Center Approach, which involves prearranged activities, but not behavior. Individualization is paramount. Learners choose the center they wish to work at and the amount of time to be spent. The Structured Center Approach entails predetermined group composition and highly structured activities. The Partial Approach is an adaptation of either of the aforementioned approaches. Teachers employ this approach when full utilization of small group process is not possible. Basic subjects are taught in a traditional manner and small groups are formed for select portions of subject areas. Development of centers is left to the user.

Appendices contain suggested arrangements of classroom furniture, bibliographical references, and an organizational checklist. The manual is softbound, 67 pages in length, and in English.

OVERALL ASSESSMENT: Teachers or program coordinators interested in experimenting with the small-group process, as well as those already committed to this approach, may find this manual helpful. It is suggested that other small-group manuals be considered as well.

319

FORMING AN ESTUDIANTINA AND SYMBOLS OF MUSIC NOTATION

AUTHORS: Anne Horne; Calexico Intercultural Design

PRODUCER/DISTRIBUTOR/COPYRIGHT: Dissemination and Assessment Center for Bilingual Bicultural Education; 6504 Tracor Lane; Austin, TX 78721/1973

PURPOSE: "This handbook is for music teachers who are working in a bilingual situation. Although music is an international language, the terms used for the musical symbols are not. This handbook is an attempt to gather the basic musical vocabulary and to present it in both English and Spanish for quick reference."

PROFILE: "An estudiantina is a group of student singers and instrumentalists who traditionally perform folk music and romantic ballads." The author also defines the estudiantina in terms of its historical background and constituents. Teachers are directed to learn the songs on each instrument, to put guitar chords on poster board, to make transparencies of the words and chords, and to arrange the melodic line of the mandolin. It is assumed the learners will be beginners at the junior and senior high school levels.

Discussions of the symbols of music notation and definition of musical terms are presented first in English, later in Spanish. Topics include meter or time signature, symbols, key signature, finding the key name, circle of fifths, the major scales, the minor scales, minor keys, intervals, dynamic markings, tempo markings, miscellaneous terms, and musical vocabulary. Four songs and costumes make up the last segment of the manual. The book is 96 pages in length, spiralbound, softcovered, and in English.

OVERALL ASSESSMENT: Music teachers in bilingual schools, particularly in the southwest, will find that this manual offers an interesting way to augment the music curriculum with bilingual activities.

320

INFORMATION AND MATERIALS TO TEACH THE CULTURAL HERITAGE OF THE MEXICAN-AMERICAN CHILD

AUTHORS: Education Service Center, Region XIII; Austin, TX

PRODUCER/DISTRIBUTOR/COPYRIGHT: Dissemination and Assessment Center for Bilingual Bicultural Education; 6504 Tracor Lane; Austin, TX 78721/1974, second revision

PURPOSE: This manual "...was developed by the Region XIII Education Service Center Bilingual Program staff in response to requests made by teachers in the program for supplemental historical and cultural materials to use in their classrooms."

PROFILE: Ten of the 13 sections of the resource guide contain descriptions of the culture and history of Mexico. Developers present comprehensive, chronological background information integrated with related art activities, poems, songs, games, dances, legends, fables, and stories. The text is in English; however, the legends, etc., are in Spanish. It is claimed by the developers that the manual contains material that can be used/adapted for use in grades k through nine.

One of the remaining three sections contains an elementary Spanish vocabulary list and pronunciation guide (presumably for non-Spanish-speakers). Another is a bibliography of numerous reference books (where additional historical/cultural information can be located), and a few instructional and resource materials (print and other media). Developed instructional units in Mexican-American studies constitute the remaining section. The six units are: Geography of Mexico, Mexican Indians, Spanish Conquest and Expansion, National Period-Pre-Revolution, the Revolution, and Mexican-Americans. Each unit contains a general goal, background information, specific objectives, and suggested, though very briefly described, classroom activities. Additional resources are listed as well. Developers suggest a frame of reference for Mexican-American studies between grades one and six.

This spiralbound manual is 263 pages in length.

OVERALL ASSESSMENT: Numerous traditional Mexican holidays, songs, poems, stories, legends, fables, foods, arts and crafts, as well as historical background information, are easily accessible in this resource material. It is a single comprehensive source of Mexican-American cultural history adapted for teaching. Teachers concerned with the bicultural element of bilingual education will find this material beneficial. The prepared instructional units are too short to be used without adaptation. This manual is recommended to teachers of Mexican-American learners.

321

LANGUAGE DEVELOPMENT RESOURCES FOR BILINGUAL BICULTURAL EDUCATION

AUTHORS: Experienced Teacher Fellowship Program, College of Education, University of Arizona

PRODUCER/DISTRIBUTOR/COPYRIGHT: Dissemination and Assessment Center for Bilingual Bicultural Education; 6504 Tracor Lane; Austin, TX 78721/1968-69

PURPOSE: "These materials are not designed to be a guide or course of study that teachers would use in a structured sequence; rather, it is recommended that teachers use these materials as a resource to implement a program designed to meet the particular needs of their specific children."

PROFILE: Language development is not viewed as a segment of the program but as the "glue" that holds the varied activities together. Responses are encouraged in both languages via free association, role-playing, observation, and expression of personal opinions. When specific language patterns are mentioned, they are presented in English and Spanish at the same time. It is unclear if they are to be taught in this way.

The manual is divided into five sections: *Introduction*, which describes the program and what a bilingual learning situation ought and ought not to be; *Parent Participation*, which describes how to implement a parent involvement program and contains suggested activities; *Activity Centers:* art center, book center, communications center, discussion center, game center, listening center, puppet center, role-playing center, sensitivity center, viewing center, cooking center, and possible field trips (all of which have brief statements of purpose and language-related activities); *Bilingual Resource Materials*, containing numerous stories, poems, songs, riddles, games, rhymes, dances, recipes, and language patterns (in Spanish and English); and *Supplements*, describing community resources, suggestions for books, records, films, and filmstrips in English and Spanish; and references for ESL teaching.

Activities are briefly described and are to be implemented at the teacher's discretion. They vary in difficulty to the extent that some may be used in kindergarten while others (primarily the stories) may be used on levels as high as grade four or five. The manual is 243 pages in length, spiralbound, and – except for Spanish songs, stories, etc. – in English.

OVERALL ASSESSMENT: This manual can prove to be useful to bilingual elementary school teachers in the southwestern United States. Teachers can be selective in supplementing or enriching basic instructional materials with new activities and ideas. They may also profit from the resource and management suggestions. It is not an exceedingly expensive manual, and, if purchased, it is suggested that it remain at the disposal of all elementary school bilingual teachers.

322

PRESENTACIONES ESCOLARES

AUTHOR: Curriculum Adaptation Network for Bilingual Bicultural Education, Southwest Regional Adaptation Center

PRODUCER/DISTRIBUTOR/COPYRIGHT: Dissemination and Assessment Center for Bilingual Bicultural Education; 6504 Tracor Lane; Austin, TX 78721/1974

PURPOSE: This professional book – fully titled, *Presentaciones escolares: Serie de programas para conmemorar acontecimientos de valor cultural para el mexicano americano* – "...consists of cultural plays that can be easily used in assemblies or special programs with elementary school children. These plays provide activities for the learners that will reinforce their knowledge of their [Mexican-American] cultural heritage."

PROFILE: The plays are all under 30 minutes in length. They include: *Conmemoración del 16 de septiembre*, Miguel Hidalgo; *Conmemoración del 12 de octubre , 1492*, Colón; *Día de dar gracias; Navidad y año nuevo; Recuerdos de febrero, Lincoln–Juárez; Conmemoración a la primavera; Cinco de mayo; and Conmemoración a la madre*. Instructions related to the production of the plays are also provided. The manual is 86 pages, softcovered, spiralbound, and in Spanish.

OVERALL ASSESSMENT: Bilingual elementary school teachers faced with the task of developing an assembly program will undoubtedly find this manual helpful.

323

RESOURCE MATERIAL FOR BILINGUAL EDUCATION

AUTHOR: Fort Worth Public Schools Bilingual Program, Fort Worth, TX

PRODUCER/DISTRIBUTOR/COPYRIGHT: Dissemination and Assessment Center for Bilingual Bicultural Education; 6504 Tracor Lane; Austin, TX/ 78721/1973, revised edition

PURPOSE: "*Resource Material for Bilingual Education* was prepared to serve as a reference book to aid the bilingual classroom teachers and instructional aides in providing bilingual instruction for their students."

PROFILE: This manual is ungraded and to be used either in part or in its entirety by elementary school teachers at any time they feel it offers valuable supplementation to daily lessons. It is divided into nine subject areas: days-months-seasons; colors-letters-numbers; plants-animals; self-family-community; food-clothing, holidays-special events; classroom terms and expressions; biographies; and games and stories. Activities and sample lessons are provided in both English and Spanish. These lessons contain objectives, necessary materials, procedures, exercises, and suggested evaluation techniques. Language of instruction is left to the teacher's discretion.

Much attention has been paid to the bicultural aspect of the program. Spanish songs, poems, games, and stories, and holidays of Mexican origin are listed alongside those common in the United States (some translated). Biographies of famous Mexicans, Mexican-Americans, and Americans also appear together, e.g., Benito Juárez, Cuauhtemoc, Martin Luther King, Jr., John F. Kennedy, and Abraham Lincoln, to name a few.

The manual is 164 pages long. Teachers will have to prepare some form of reproducing master if they wish to distribute pages to the learners.

OVERALL ASSESSMENT: The manual is neatly organized into content areas. Teachers will probably find the crosscultural resource information to be the most helpful aspect of the program. It is recommended as a supplementary teaching aid.

STRUGGLE FOR INDEPENDENCE: MEXICO'S REBELLION AGAINST SPAIN

AUTHORS: Curriculum Adaptation Network for Bilingual Bicultural Education; Southwest Regional Adaptation Center; Emil Crespín; Robert Rodríguez

PRODUCER/DISTRIBUTOR/COPYRIGHT: Dissemination and Assessment Center for Bilingual Bicultural Education; 6504 Tracor Lane; Austin, TX 78721/1974

PURPOSE: *Struggle for Independence* is "...the first in a series of resource guides for teaching history and culture to the Mexican American child....The main purpose of the manual is to focus on commemorations of events and people important in the cultural heritage of the Mexican American." It can be used to supplement the SCDC social science strand.

PROFILE: The central focus of the program is on Mexico's rebellion against Spanish dominance. Events are presented in chronological order along with sketches of persons important to the events. In the upper right corner the day the Mexican people commemorate the particular event/person is found. The "Presentation of Facts" section provides the teacher with pertinent background information. The developers have included a Spanish pronunciation guide for non-Spanish-speaking teachers. The reason why the person/event is celebrated is then explained and activities are suggested related to the person/event described under the heading "Highlighting the Facts." There are art activities, role-playing activities, and suggestions for discussion and reports.

The manual is softcovered, 57 pages long, in English, illustrated in black and white, and designed to be adapted for use with grades one through nine.

OVERALL ASSESSMENT: Activities are quite vague, e.g., "Preparation: Guide a class discussion on comparisons between Mexican and American preindependence events. Student Involvement: Each child contributes to the discussion, volunteering individual thoughts to the class." Moreover, it is doubtful that sufficient information is supplied to develop a lesson at the upper elementary school grade levels without outside research. Valuable background information is nevertheless supplied.

THEY HELP EACH OTHER LEARN: A GROUP PARTICIPATION AND LEADERSHIP TRAINING MANUAL

AUTHORS: Jean M. Baker et al. (Regional Project Office Publication; San Bernardino, CA)

PRODUCER/DISTRIBUTOR/COPYRIGHT: Dissemination and Assessment Center for Bilingual Bicultural Education; 6504 Tracor Lane; Austin, TX 78721/1971

PURPOSE: Elementary education in the United States has experienced important changes in the last few years. Within the classroom environment, traditional rows of desks are disappearing and being replaced by activity centers. Bilingual bicultural teachers are also enthusiastic about small-group organization; however, they know that many children lack skills required for effective group participation and leadership. For this reason, the authors of this manual agreed to develop procedures for teaching leadership and group participation skills.

PROFILE: Participation and leadership skills to be developed via this program are: reading the group instructions; distributing the materials; answering questions about the lesson; cleaning up the work area; helping each other; praising (positively reinforcing) each other for good behavior in the group; and evaluating the group activity. Training lessons treat each of the aforementioned characteristics of small-group process gradually and in detail. Learners are to be kept aware of the objectives of each training lesson. Developers stress how important it is that behavior necessary to efficient small-group process manifest during the training lessons be positively reinforced. A typical training lesson involves review of previous lessons, behavioral objectives, materials and setting, methods of accomplishing the objectives, and a brief evaluation section.

A checklist to be completed by the small-group leader after each session allows the teacher to judge how efficiently the group is functioning and possibly to signal the need for a review training lesson. The manual is designed to be used with second-graders; however, developers claim minor adaptation would make the lessons appropriate to other elementary school grades. Activity charts used for practice during the training lessons are available (some in English, others in Spanish) on 16" x 20" tagboard. The manual is 37 pages in length and in English.

OVERALL ASSESSMENT: Bilingual bicultural programs in which open classroom strategies are being used will find this guide helpful for improving efficiency of small-group performance. It is by no means relevant to only one Spanish-speaking population.

THINGS TO DO: ACTIVITIES FOR A BILINGUAL CLASSROOM

AUTHORS: Jean M. Baker et al. (Regional Project Office Publication; San Bernardino, CA)

PRODUCER/DISTRIBUTOR/COPYRIGHT: Dissemination and Assessment Center for Bilingual Bicultural Education; 6504 Tracor Lane; Austin, TX 78721/1975

PURPOSE: "This manual was developed after teachers using the small group process approach expressed interest in obtaining a variety of activities they could use in their bilingual classrooms....This manual has been prepared for teachers who are using or wish to use small group organization in bilingual bicultural programs at the primary grade level."

PROFILE: In the first section of the manual, three sample daily schedules are described. Schedules one and two require that children be divided into groups of five or six, heterogeneous in academic and language ability, in sex, and in ethnicity. Groups work at each learning center (communications, language arts, writing, reading, mathematics, science/social studies, art, and music/listening) for periods of 15-20 minutes and rotate following a predetermined sequence. The third schedule is more unstructured, in that learners are free to choose their own activities and the length of time to be spent on each activity. This schedule is only recommended for learners who have spent time in more structured environments and have already learned important behavioral skills. Regardless of the schedule selected, learners are to be continually aware of the objectives of each activity. Desired behaviors should be both modeled and reinforced by the teacher.

The second part of the manual describes activities appropriate to the various learning centers. All activities share the characteristic of helping elicit oral and written language in both Spanish and English. Most activities do not require adult supervision, although some do.

The manual is 37 pages in length and softbound.

OVERALL ASSESSMENT: Teachers are to use the activities mentioned as a springboard from which other activities tailored to the specific needs of the learners can be developed. The activities described are not limited to one grade level. Some are noticeably simpler than others. The extent of their usefulness will be determined by the composition of learners. Scheduling suggestions lack specificity. Teachers using small-group process techniques can undoubtedly profit from this manual.

WE LEARN TOGETHER: A SMALL GROUP PROCESS MANUAL FOR SECONDARY TEACHERS

AUTHOR: Regional Project Office Publication; San Bernardino, CA

PRODUCER/DISTRIBUTOR/COPYRIGHT: Dissemination and Assessment Center for Bilingual Bicultural Education; 6504 Tracor Lane; Austin, TX 78721/1972

PURPOSE: "The intent of this manual is to illustrate the application of the small group process approach to bilingual education at the junior high and senior high school grade levels....This manual was developed and adapted from a small group process manual, *Each One Learning*, by Jean Baker, Joy Ross, and Barbara Walters."

PROFILE: *We Learn Together* is hardly an adaptation but almost a complete replication of *Each One Learning*. With the exception of changes which make suggested activities more appropriate to junior and senior high levels, information regarding implementation of small-group process is identical to that described in *Each One Learning*.

Appendices contain bibliographical references and an organizational checklist. The manual is in English, softbound, and 66 pages in length.

OVERALL ASSESSMENT: It seems plausible that basic principles of the small-group process approach may be applicable at all levels of instruction. Some suggestions for composition of learning centers – e.g., "beans and junk for counting and set activities," "story books," and "basal readers" – simply do not seem to be appropriate for junior and senior high school learners, regardless of their language ability. Extensive adaptation of this material is needed.

INDEX OF AUTHORS

Alvarado, Patricio . . . 125
Alvarez Pérez, Antonio . . . 72, 78
Arrechea Rodríguez, Elio . . . 74
Ayala Betancourt, Nydia . . . 60
Baker, Jean M. . . . 139, 143
Bilingual Program ARRIBA . . . 119, 125
Bodley, Roger W. . . . 134
Brentano Foundation, The . . . 108, 110, 112
Buckeye, Donald . . . 116
Calexico Intercultural Design . . . 121, 122, 123, 124, 140
Campos Delgado, Jesús . . . 18
Casulleras Regás, Juan . . . 52
Center for Media Development, Inc. . . . 82
Colón, Luisa . . . 116
Crespín, Emil . . . 142
Curriculum Adaptation Network for Bilingual Bicultural Education . . . 12, 116, 141, 142
deBorhegyi, Stephan F. . . . 117
Decal, Gonzalo G. . . . 44
Department of Education, Anaya . . . 62, 92, 102
Díaz Cubero, José H. . . . 98, 130
Dubrowsky, Edward . . . 107, 119, 126, 129, 132
Duncan, Ernest R. . . . 56
Education Service Center, Region XIII . . . 140
Eicholz, Robert E . . . 50
Escolano Benito, Agustín . . . 100
Evans, Joyce . . . 4,8
Experienced Teacher Fellowship Program; College of Education, University of Arizona . . . 141
Feingold, Renée . . . 30
Filacy, Rudolph C. . . . 118
Filano, Albert E. . . . 48
Flexible Learning Systems . . . 134
Fort Worth [Texas] Public Schools Bilingual Program . . . 135, 142
González Gallego, Isidoro . . . 24
Goodman, Robert C. . . . 134
Hernando, Alfonso C. . . . 50
Herrada Herrera, María Josefa . . . 136
Horne, Anne . . . 140
Lavara Gros, Eliseo . . . 16
Lavatelli, Celia Stendler . . . 82
Learning Research and Development Center . . . 30
LeBlanc, John F. . . . 46
López, Emilia . . . 36
Llaverías, Germesinda . . . 68
Maldonado, Juan . . . 116
Markatos, John . . . 121
Marsinyach Dalmases, Sebastián . . . 54
Martínez, Emiliano . . . 2, 42, 58, 64, 66, 131
Martínez Urgartemendia, Jacinto . . . 96
Masip Bracons, Laura . . . 52
Montalvo, Luis . . . 125
Muñoz, José . . . 64
Nedler, Shari . . . 4, 8
Neigoff, Anne . . . 106
Nowell, Charles E. . . . 117
Núñez Molina, Luis N. . . . 28
Ortiz, Blanca . . . 114
Paguero, Gladys . . . 28
Pérez Martínez, Aurelio . . . 98
Pullinger, A.J.H. . . . 117
Quesada de Walton, Eneida R. . . . 22
Ramos, Antonio . . . 34
Regional Project Office, San Bernardino, CA . . . 139, 144
Rendón, René . . . 122, 123
Resnick, Lauren . . . 30
Rey, Luis . . . 20
Rivera, Carlos . . . 116
Rodao Yubero, Florentino . . . 70
Rodríguez, Robert . . . 142
Roldán, Gloria . . . 2, 34, 58, 84
Rosenblum, Mark . . . 122
Rosengarden, Fred S. . . . 108, 110, 112
Rubin, Mark . . . 114
Sabugo Pintor, Ángel . . . 76, 80
Sams, Oscar E. . . . 117
Sánchez, Sergio . . . 66
Santiago, Jorge . . . 119
Schneider, Herman . . . 94
Schneider, Nina . . . 94
Schneider, Robert E. . . . 108, 110, 112
Sigliano, Ed . . . 124
Snyder, Thomas S. . . . 120, 128
Southwest Educational Development Laboratory . . . 4, 8
Spanish Curricula Development Center . . . 86, 88, 90
Tober, Jeanne . . . 114
Ubierna, Carmen . . . 40
Valecillo, Victor M. . . . 22
Wirtz, Robert . . . 14
Wisconsin Research And Development Center for Cognitive Learning, The . . . 32

329

330

INDEX OF DISTRIBUTORS

Instructional materials published abroad are available for purchase through numerous distributors throughout the United States. Those listed below are not necessarily *exclusive* distributors of any one program or instructional material. Rather, the list represents those known to EPIE Institute.

Anaya- Las Americas Spanish Book Center. . . . . 16, 22, 24, 28, 36, 44, 52, 54, ... 62, 70, 72, 7[illegible], 78, 80, 92, 96, 100, 102
152 East 23rd Street
New York, NY 10010

Arhe, Inc. 26
565 Fifth Avenue
New York, NY 10017

Bilingual Publications Company, The 98
1966 Broadway
New York, NY 10023

Continental Book Company 20, 56
11-03 46th Avenue
Long Island City, NY 11101

Lectorum Publications 20, 22, 56, 98, 130, 136
137 West 14th Street
New York, NY 10010

Santillana Publishing Company . . . . . 2, 34, 38, 40, 42, 58, 60, 64, 66 . . . . . 68, 84, 98, 131
575 Lexington Avenue
New York, NY 10022

Spanish Book Corporation of America. 16, 18, 20, 44, 54, 56, 98
115 Fifth Avenue
New York, NY 10019

Spanish Language Multi-Media 18
P.O. Box 1111
Glen Rock, NJ 07452

INDEX OF PUBLISHERS

Although an enormous number of instructional materials are analyzed in this *EPIE Report,* not all materials marketed as "bilingual education materials" – commercial or noncommercial, foreign or domestic – are represented. Accordingly, not *all* producers of these instructional materials are represented either.

Addison-Wesley Publishing Company Inc. 50
Sand Hill Road
Menlo Park, CA 94025

American Science and Engineering, Inc. 82
20 Overland Street
Boston, MA 02215

Carousel Films, Inc. 108, 110, 112
1501 Broadway
New York, NY 10036

Continental Press, Inc., The 48
Elizabethtown, PA 17022

Cultural Centroamericana, S.A. 20, 98
Guatemala

Cultural Colombiana, Ltda. 136
Bogotá, Colombia

Cultural Puertorriqueña, Inc. 98, 130
Avenida Fernandez Juncos, 1406, PDA 20
Box 8863 Fernandez Juncos Station
Santurce, Puerto Rico 00910

Cultural Venezolana, S.A. 74
Caracas, Venezuela

Curriculum Development Associates 14
1211 Connecticut Avenue, N.W.
Suite 414
Washington, D.C. 20036

Dissemination and Assessment Center for Bilingual Bicultural Education
. . . 12, 86, 88, 90, 116, 119, 121, 122, 123, 124, 125, 126, 135, 139, 140, 141, 142, 143, 144
6504 Tracor Lane
Austin, TX 78721

Ediciones Anaya, S.A. 24, 52, 62, 92, 100, 102
Salamanca: L. Braille, 4
Spain

Ediciones Escolares "La Escuela Nueva, S.A.". 22, 28
Apartado 19.092
Madrid-16, Spain

Ediciones S.M. 96
General Tabanera, 39
Madrid-19, Spain

Editorial Bruño. 18, 36, 54
Marqués de Mondéjar, 32
Madrid-28, Spain

Editorial Cincel. 26
Alberto Aguilera, 32
Madrid, Spain

Editorial Everest 76, 80
Avenida San Juan de Sahagún, 3
Apartado 339
León, Spain

Editorial Luis Vives 70
Zaragoza, Spain

Editorial Muñón, S.A. 72, 78
Plaza Mayor, 7
Valladolid, Spain

EDL 30, 118
1221 Avenue of the Americas
New York, NY 10020

EMC Corporation 120, 128
180 East Sixth Street
St. Paul, MN 55101

Encyclopaedia Britannica Educational Corporation 106, 117, 134
425 North Michigan Avenue
Chicago, IL 60611

Fondo Educativo Interamericano, S.A. 50
Apartado Aéreo 6747
Cali, Colombia

D.C. Heath and Company 94
125 Spring Street
Lexington, MA 02173

Hijos de Santiago Rodríguez 16, 44
Molinillo 11-15
Burgos, Spain

Midwest Publications Company, Inc. 116
P.O. Box 129
Troy, MI 48084

National Educational Laboratory Publishers, Inc. 4, 8
813 Airport Boulevard
Austin, TX 78702

Publicaciones Cultural, S.A. 56, 98
Lago Mayor, 186
México 17, D.F.

Rand McNally and Company 32
8255 Central Park Avenue
Skokie, IL 60076

Santillana, S.A. 2, 34, 38, 40, 42, 58, 60, 64, 66, 68, 84, 131
Elfo, 32
Madrid-27, Spain

Santillana Publishing Company . . . 2, 34, 38, 40, 42, 58, 60, 64, 66, 68, 84, 131
575 Lexington Avenue
New York, NY 10022

Silver Burdett Company 46
250 James Street
Morristown, NJ 07960

Urban Media Materials 107, 114, 119, 129, 132
212 Mineola Avenue
Roslyn Heights, NY 11577

334

335

CONTENTS OF EPIE REPORT: NUMBER 73

On the Selection of Spanish Instructional Materials for Bilingual Classrooms . . vi
Matching Materials and Learners . . . viii
Where Do You Stand on Bilingual Education? . . . ix
From Preferences to Programs . . . xi
Putting It All Together . . . xv
Final Notes . . . xxii

Synthesized Analyses of Basic Instructional Programs . . . 1
Álbum de Figuras Acme . . . 2
Amanecer . . . 4
Bilingual Oral Language and Reading . . . 8
Cincel's Integrated Curriculum . . . 12
Colección Edad de Oro . . . 14
Colección Monza . . . 16
Colección Sembrador . . . 18
Conquista del Lenguaje . . . 20
Crane Reading System . . . 22
Cuentos para Leer y Escribir . . . 24
Educación General Básica (Editorial Bruño) . . . 26
Escucho, Digo, y Aprendo . . . 28
Español: Elementos Gramaticales . . . 30
Ideas y Palabras . . . 32
Lectura . . . 34
Lecturas Comentadas . . . 36
Lecturas Escolares . . . 38
Lengua Española . . . 40
Lengua Española . . . 42
Lengua Española . . . 44
Lengua Española . . . 46
Lenguaje, El . . . 48
Lenguaje en Acción . . . 50
Método Alpha . . . 52
Mi Ambiente y Yo . . . 54
Mundo Nuevo (primera etapa) . . . 56
Nosotros y las Palabras . . . 58
Nuestra Lengua . . . 60
Open Court Bilingual Foundation Program/Programa Básico Bilingüe Open Court . . . 62
Para Ti: Nuestro Lenguaje . . . 64
Por el Mundo del Cuento y la Aventura . . . 66
Prácticas de Ortografía . . . 68
Preparándose para Leer . . . 70
Puedo Leer/I Can Read: Initial Reading in Spanish for Bilingual Children . . . 72
¡Qué Bonito Es Leer! . . . 74
Retama: Método de Lectura Script . . . 76
Saeta Series . . . 78
Santillana Bilingual Series . . . 80
SCDC Spanish Curricula Units: Language Arts Strand . . . 82
Senda Reading Series A . . . 84
Senda Reading Series B . . . 86
Serie Lenguaje . . . 88
Serie Toño y Dora . . . 90
Serie Tu Idioma . . . 92

S.M. Lectura (not actual title) 94
S.M. Lenguaje 96
Tesoros de Mi Raza 98
Victoria 100

Synthesized Analyses of Supplementary Instructional Materials 102

Aprendiendo el Alfabeto 103
Brentano Bi-Lingual Media Series: Module V, Summerfun, The 104
Caribbean Stories, The 106
Crucigramas: Crossword Puzzles for Primary Grades 108
Crucigramas para la Práctica Fonética 109
Chula Vista Readers 109
Destrezas de Pensar 110
Destrezas Visual-Motoras 110
Discriminación Visual 111
Diversiones para Práctica Fonética 112
Escuchando y Participando Aprendo 112
High-Wire: A Bilingual Language Development Workbook 113
King Features Spanish-English Program 114
Learning Achievement Packages: Language Arts-Spanish 115
Learning Achievement Packages: Language Arts–Spanish Grammar . . 116
Leyendo para Comprender 116
Libro de Lectura Series 117
Música del Sol, La 117
Nuestra Cartilla Fonética 118
Programa Paralelo de Creatividad 119
Santillana Bilingual Series-Audio Visual Program 120
Serie de Rimas Ilustradas 120

Synthesized Analyses of Professional Materials 121

¡Aprendemos con Gusto! 122
Each One Learning: A Small Group Process Manual for Teachers 122
Information and Materials To Teach the Cultural Heritage of the Mexican-American Child 123
Language Development Resources for Bilingual Bicultural Education . 123
Resource Material for Bilingual Education 124
They Help Each Other Learn: A Group Participation and Leadership Training Manual 124
Things To Do: Activities for a Bilingual Classroom 125
We Learn Together: A Small Group Process Manual for Secondary Teachers 125

Index of Authors 126
Index of Distributors 127
Index of Publishers 128
Contents of EPIE REPORT: Number 74 130

338

339

LIST OF EPIE-TRAINED INSTRUCTIONAL MATERIALS ANALYSTS FOR 1975-76 SCHOOL YEAR

This list represents those individuals who have contributed to the analyses of instructional materials that appear in *EPIE Reports* for the 1975-76 school year. All of them have earned EPIE's profound gratitude.

Ada, Alma Flor
Arlington Heights, IL 60172

Armendáriz, Blanche
Austin, TX 78721

Baéz, Tony
Milwaukee, WI 53208

Barton, Irene R.
Newington, CT 06111

Bass, Bernice
Denver, CO 80221

Bergen, Margarita
Bronx, NY 10465

Bilek, Bob
Salinas, CA 93901

Boeckman, Don
Westminster, CO 80030

Carrasco, Yolanda S.
Cañones, NM 87516

Carter, Larry
Ypsilanti, MI 48197

Charles, Cheryl
Olympia, WA 98505

Contreras, Frank
Austin, TX 78721

Cragun, Roger D.
Clinton, UT 84015

Crowl, Lydia
Petaluma, CA 94952

DeBell, Jim
Westminster, CO 80030

Donnelly, Dyan
New York, NY 10025

Engel, C. William
Tampa, FL 33620

Flint, Nancy A.
Los Angeles, CA 90033

Ford, Luther
Boulder, CO 80302

Frederickson, Paul
Minneapolis, MN 55415

Gaa, Jerome P.
Bartow, FL 33830

Gallegos, Yvette
Colorado Springs, CO 80910

García, Felix
Alamosa, CO 81101

García, Nasario
Pueblo, CO 81001

Gardner, Toni
San Carlos, CA 94070

Garwood, Sterling
Santa Fe, NM 87503

Geiger, John H.
Land O' Lakes, FL 33539

Gesumaria, Samuel
New York, NY 10014

Haseloff, Gary
Austin, TX 78711

Henderson, Charles M.
Houston, TX 77001

Henry, Renee
Tallahassee, FL 32304

Hevia, Estela R.
Miami, FL 33132

Holmes, Jim
Fresno, CA 93721

Houtz, Harry
Santa Fe, NM 87501

Jacobs, Judith E.
Staten Island, NY 10301

Jaramillo, J. Heriberto
Albuquerque, NM 87131

Jaramillo, Mari-Luci
Albuquerque, NM 87131

Jiménez, Carmen A.
Brooklyn, NY 11201

Kanoon, Gerald Delgado
Arlington Heights, IL 60005

Kennedy, Mary
McLean, VA 22101

Kueng, Dennis
Minneapolis, MN 55411

Lawson, Robert F.
Helena, MT 59601

León, Alfonso
Brooklyn, NY 11201

Levy, Tedd
Norwalk, CT 06850

Litz, Elsie C.
Redwood City, CA 94063

Lopez, Virginia
Robstown, TX 78380

Lopez-Valadez, E. Jeanne
Arlington Heights, IL 60005

Lovato, Margarito Julián
Cañones, NM 87516

Martí, Clara L.
Miami, FL 33138

Martin, Jane
St. Louis, MO 63123

Martinez, Charen
Westminster, CO 80030

McCoy, Donald D.
Wichita, KS 67220

McMillan, Lavern
Port Arthur, TX 77640

Metcalf, Fay
Boulder, CO 80302

Minkin, Rita Sánchez
Albuquerque, NM 87106

Moesser, Alba
Pomona, CA 91768

Moore, Larry
Kingston, Ontario, Canada

Morgan, Jack
Louisville, KY 40208

Nicholson, Alan D.
Helena, MT 59601

Peña, Becky de la
San Antonio, TX 78228

Pennypacker, Arabelle
Medford, NJ 08055

Pratt, Bob
Cedar Falls, IA 50613

Pratt, Francis
Hudson, MA 01749

Psencik, Leroy F.
Austin, TX 78701

Quiñones, Reinaldo
New York, NY 10033

Quiroga, María Cristina
Queens Village, NY 11428

Radz, Michael
Minier, IL 61759

Renner-Smith, Susan
New York, NY 10014

Rivas, María
Lawrence, KA 66044

Rodriguez, Michael F.
Brooklyn, NY 11201

Rosenberger, Naomi
Boulder, CO 80302

Rosenstein, Frances
Bronx, NY 10457

Rosenzweig, Fred
Rockaway, NJ 07866

Sambrano, Ella
Clovis, NM 88101

Sekich, James M.
Denver, CO 80222

Sierra, Marta
Miami, FL 33145

Simon, Sr. Georgianna
Boulder, CO 80302

Sotomayor, Irma
Tucson, AZ 85713

Superka, Doug
Boulder, CO 80302

Swiers, Alma M.
Bakersfield, CA 93309

Talmage, Gita
Urbana, IL 61801

Thayer, Grant
Downey, CA 90242

Tonoli, Tom
Fort Collins, CO 80521

Urbina, Francisco
Milwaukee, WI 53204

Ward, Tom
Burk, VA 22015

Watford, Bob
Boulder, CO 80302

Weipert, Louis
Denver, CO 80222

Wylie, Bob
Belleville, Ontario, Canada

Vélez, Diana
New York, NY 10032